THIS WEEK'S National Petroleum NEWS

Coming Meetings

Nebraska Petroleum Marketers, Inc., Hotel Paxton, Omaha, Neb., Dec. 9, 10, 11.

Geological Society of America, Mayo Hotel, Tulsa, Dec. 28 to 31.

1932

Northwest Petroleum Association, North Dakota division, Waldorf Hotel, Fargo, N. D., Jan. 11, 12.

Northwest Petroleum Association, Minnesota division, Radisson Hotel, Minneapolis, Minn., Jan. 14, 15.

Oklahoma Petroleum Marketers Association, Oklahoma City, Jan. 21, 22.

Society of Automotive Engineers, Detroit, Mich., Jan. 25 to 29.

The Kentucky Petroleum Marketers Association, Brown Hotel, Louisville, Ky., Feb. 9.

Iowa Petroleum Association, Fort Des Moines Hotel, Des Moines, Ia., Feb. 9, 10.

Ohio Petroleum Marketers Association, Deshler-Wallick Hotel, Columbus, O., Feb. 23, 24, 25.

American Association of Petroleum Geologists, Oklahoma City, Okla., March 17, 18, 19.

Michigan Oil Men's Association, Statler Hotel, Detroit, March 23, 24, 25.

American Oil Burner Association, Mechanics Bldg., Boston, Mass., April 11 to 16.

National Petroleum Association, Hotel Cleveland, Cleveland, O., April 21, 22.

National Petroleum News

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CHARLES F. ROESER, vice-president for production of the American Petroleum Institute, brings to his new position a practical background of experience in unit operation and gas conservation. As a member of the firm of Roeser & Pendleton he helped handle this country's first large scale experiment in returning gas to the pay sand as produced. See article Page 31.

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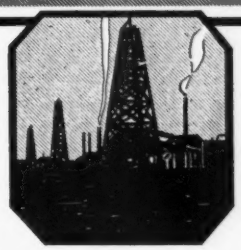

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Vol. 23 **CLEVELAND, DECEMBER 2, 1931** **No. 48**

Oklahoma and Kansas Officials Ask Texas to Cut Crude Output

By Lawrence E. Smith
N. P. N. STAFF WRITER

By Telegraph
TULSA, Nov. 30

WITH no representative from Texas present the three-state meeting called for Tulsa by Thureman Hill, Public Service Commissioner of Kansas, could do no more Monday than to suggest allowable production for Kansas, Oklahoma and Texas, which it thought would fit the season of low consumption. That suggestion was 825,000 barrels per day for Texas, 500,000 for Oklahoma and 120,000 for Kansas.

In September these states, through officials, signed an agreement that Texas would be held to 902,000 barrels daily, Oklahoma 546,000 and Kansas to 110,000.

Kansas was represented at the Tulsa meeting by Commissioner Hill, and Oklahoma by Paul Walker, chairman of the commission. The Railroad Commission of Texas said it did not consider it proper to attend as part of the Texas conservation enforcement is now being handled by the governor.

Governor Sterling declined to send a representative because of "certain conditions" in his state, but asked that he be kept informed of the action taken at Tulsa. It is understood that the recently amended petition of the Brock-Lee Co. filed in Federal court which attacks specifically the tri-state agreement of September had considerable weight in the governor's decision to stay out of this conference.

Among others who attended the meeting were Judge Amos L. Beaty, new president of the Institute; William N. Davis, president of the Mid-Continent Oil & Gas Association; Wirt Franklin, president of the Independent Petroleum Association of America, and Cicero I. Murray, chairman of the Oil States Advisory Committee. The latter told the meeting that the coming session of congress would be asked to enact a law sanctioning formation of an interstate agreement under which oil states would proceed to enact uniform laws for oil and gas conservation and definite restriction of imports would be sought.

Immediate occasion for this meeting is fear that production is again getting so seriously out of line as to endanger the price structure. Texas was given a greater share of blame as it has not kept to the figure agreed on in September, while the other two states have been consistently under the figures set.

At the request of Chairman Hill, William N. Davis reviewed the reports of the two economics committees released at the time of the American Petroleum Institute meeting and asserted

Rescinds Order Cutting East Texas Allowables

By Telegraph

FORT WORTH, Dec. 1.—After issuing an order yesterday afternoon reducing the allowable output of East Texas wells to 110 barrels per day Governor Ross S. Sterling rescinded his action last night. Allowables will thus remain at 125 barrels per well per day. The order was to have been effective Dec. 2, it would have been the sixth reduction since Aug. 17 when martial law was declared.

Governor Sterling gave as his reasons for rescinding the earlier order "inclement weather" and "other things." He did not indicate what the "other things" might be.

In the Dec. 9th Issue—

"Redistillation of Treated Cracked Distillates"

THIS article, prepared exclusively for NATIONAL PETROLEUM NEWS by the process design division of an important refinery engineering concern, presents the most complete data on this subject ever gotten together in one article. Much of the data given have never been published before. It includes:

Description, photographs and flow charts of Single Flash, Recycle and Two-Stage Atmospheric Vacuum distillation units.

Distillation curves, typical for each type of unit, of the charge, bottoms and products.

Discussion of importance of proper chemical treatment of the charging stock.

Tables with data and utility requirements, taken from commercial operations, for the three types of units, arranged for comparison on a barrel unit basis and for final boiling point products ranging from 392 to 437 F.

that these committees have proved their reliability in making forecasts over the past two years and that the industry should pay serious heed to the latest ones. He foresaw another decline in prices unless corrective work is done both in the production of crude and refined products at once.

Judge Beaty, who was present by invitation, said that the curtailment work of the past several years has always just stopped short of the best results and that most of the effort had been directed toward keeping things from growing worse. If it were possible he said to reduce production a half million barrels daily and refinery operations accordingly, real improvement would be effected.

Commissioner Walker called attention to a belief he has expressed previously that if public service bodies could find a way to prevent physical waste of oil and particularly of gas the economic waste problem would be solved. He is giving this question much thought and is asking other states to join Oklahoma.

Hearing will be started in Oklahoma City Dec. 8 on questions of gas wastage in Oklahoma City field, and an invitation was extended to Texas and Kansas to attend. Walker became somewhat sharp in asserting that some heroic work will have to be done by somebody besides public officials.

Both Walker and Hill said their respective states were willing to order a further cut in production, but were unwilling to do so unless Texas joined.

Cicero Murray asserted that unless the curtailment program is carried further than it now is there will be a price reduction early in January.

Nothing more decisive than this canvass of the situation could be done, but the Texas governor will be acquainted with the proposal made. A formal statement was issued by Commissioners Walker and Hill as follows:

"The oil industry is again facing a serious situation. More oil is being produced and taken from American farms than can be absorbed by the market. If this condition continues for 60 days crude oil will again be selling for a song.

"The American fields are producing about 2,500,000 barrels of oil per day and demand for refined products is about 2,200,000 barrels per day. The addition of 200,000 barrels per day to already over-loaded stocks can only result in one thing, demoralization.

"Therefore it is up to the producers of Texas, Oklahoma, and Kansas to cut production down to conform with consumption—it is only the common sense thing to do. If this is not done all the splendid work toward stabilization of crude will be lost. Oil in Texas will again sell for 10 cents per barrel and in Oklahoma and Kansas at 20 cents.

"A blind producer should be able to see what orderly curtailment has done for his pocketbook. No state has profited more than Texas by curtailment. The people of Texas owe a debt of gratitude to Governor Sterling for restoring order out of chaos in Texas oil fields. By his courageous action since last spring he has helped advance the price of crude oil in that state from ten cents to 85 cents. This advance has added $750,000 per day to income of people of Texas or more than $20,000,000 per month.

"Apparently a small group of Texas oil producers is determined to wreck the market by hampering and hindering the governor in his efforts toward stabilization. They have never reduced production to 902,000, being the allowable determined to be fair for that state, and now in the face of lessened demand are crying for removal of restrictions.

"This narrow view on the part of the minority in Texas is working a grave injustice to Kansas and Oklahoma. Both states have produced less than their allowables since the Oklahoma City conference. It has been done at a sacrifice, but it will be useless for Oklahoma and Kansas to continue to curtail oil production as long as Texas refuses to curtail in an equal degree and as a result absorb the oil markets of Kansas and Oklahoma.

"However, we believe the vast majority of Texans are behind Governor Sterling and willing to play fair with Kansas and Oklahoma. Therefore, it is suggested, in order to conform to the prevailing demand, that the allowables for Kansas be 100,000 barrels per day, Oklahoma 500,000 and Texas 82,000 barrels per day, beginning Jan. 1.

"The oil producers in the Mid-Continent field cannot expect relief from congress against imports of crude and refined products unless production in American fields is economically produced and marketed in an orderly manner. Let us then get down to bed-rock and make this small curtailment in order to permanently stabilize the oil industry in the states."

THE EDITORS' VIEWPOINT

An Individual Matter

By Warren C. Platt, Editor

THIS oil industry can continue its recovery from depression if every oil man will work to that end in every way he can. With the governors of four oil states and the federal government at Washington doing what they are to improve conditions, the least the individual oil man can do is to pitch in and help.

More reduction in crude oil production is needed, but that is now being arranged. Reduction in refinery operations also is required but some refiners seem to feel that they should be left out of that picture and be permitted to make all the products they want to make.

The recent advances in the tank car market came about only because Mid-Continent refiners cut back their runs as the states there held back crude. Some cutting back is now needed at other points in the country. If it is not done at once the tank car markets will sag and stay at an unprofitable level all winter.

The jobber—the buyer in the tank car market—can make his contribution also by using only fair buying methods; by not hammering away eternally at the refiner's price, by not letting brokers play him against the price. The tank car buyer should maintain the same helpful point of view toward the tank car price as he does toward his tank wagon price.

This business depression is passing at last, but it will pass much quicker if we all had more confidence in the future and exercised some courage. A bad state of mind is still holding the oil industry back.

• • •

A Question of Good Faith

THAT'S a nice question of law that the attorney general of Texas brings up in his recent suit to oust 15 of the largest oil companies from his state. He claims that even though the Federal Trade Commission may have approved the oil industry's code of ethics, the commission has nothing to do with the courts and the conspiracy laws of Texas. Quite true, except that the commission's approval may have something to do with the "reasonableness" of the trial court's mind and the good faith of the defendants.

If Texas is successful in attacking the code under its restraint of trade laws, the chances are we can expect attacks in other states, probably with less success for the attacks, because Texas attorneys general have made it a business for many years to bring anti-trust suits.

If all this brings about a mess—which we doubt—it will only serve to force the issue that something must be done to permit business to make a profit and not to be a political football for a lot of most unbusiness-like reformers.

• • •

Survey Gasoline Quality As Well as Quantity Requirements

THE withdrawal of its plans for a second grade of Ethyl gasoline, was a most commendable move on the part of the Ethyl Gasoline Corp. This will give all parties in the race for octane numbers a chance to get their breath and think it over. The result should be some sanity of action which will lead to profit.

There is no objection, as we see it, to a second grade of Ethyl gasoline on the market. In fact, it should prove a good thing for the industry generally in permitting refiners unable to make good octane numbers, to bring their gasoline up to a fair marketable product. The objection was to the Ethyl corporation's providing for what the industry believes to be higher octane numbers—68-70—for this second gasoline than the automobiles of the present and immediate future require.

There is no reason why the refinery technical men should not make a survey every six months or so of the probable quality of fuel requirements of the automobiles of the immediate future, just as the A. P. I.'s committee of statisticians and the Federal Oil Conservation Board make a survey of the quantity of gasoline the markets will need.

Such a periodic survey for quality of fuel made with the engineers of the automobile industry, should be of great value to that industry in keeping it in step with what the oil industry can do. And it might even cause the oil industry at times to hurry up and provide a fuel that will work for greater conservation of our petroleum resources.

As we have seen in the past, even the last summer, it is easy enough for the two industries to get out of step and give each other unnecessary trouble. Take the free-wheeling device. Because the oil industry did not realize that this would require special lubricants, the free-wheeling pioneers had considerable trouble

with their own customers which is now being avoided by conferences the past few weeks between automobile and refinery engineers.

Uniform motor fuel the country over is absolutely essential for both industries today. To serve best the public the standard of that fuel should be raised nationally at a given time. Any other procedure will make for dissatisfied automobile and oil industry customers. This does not mean that individual manufacturers cannot have their own standards, their own individuality, but they should stay within certain ranges for their own profit.

The present clash over octane numbers should be the means of bringing the two industries together for mapping a profitable policy.

Refuse to Show Evidence To Federal Agent

DALLAS, Nov. 28.—Harry A. Babcock, investigator for the Federal Trade Commission, was refused permission to see the evidence gathered by Attorney General James V. Allred in preparation of the ouster suit recently filed by Allred, when Babcock called upon the attorney general in Austin, Nov. 24.

The purpose of the federal agent's trip to Texas was not revealed by him, although H. D. Bishop, assistant attorney general, said he was interested particularly in the lease and agency contracts used by a number of companies. It is this phase of the marketing code, which was prepared by committees of the American Petroleum Institute and approved by the trade commission, that the attorney general of Texas has centered his fire upon in his suit.

The reason advanced by Allred for refusing to permit Babcock to see the evidence was that it was gathered in secret courts of inquiry and the statute authorizing this method forbids use of material so gathered except in judicial proceedings. After it has been used in the trial of the case, the Federal Trade Commission will be privileged to take it, Allred said.

Magnolia Denies Planning Pipeline to North

DALLAS, Nov. 28.—Published reports that the Magnolia Pipe Line Co. is to lay a trunk pipeline from Oklahoma to St. Louis or points beyond are characterized by Magnolia officials as without foundation. No plan for such a carrier is under consideration, it was said.

Such a line, it had been reported, would serve controlled refineries of the Vacuum Oil Co., now part of the Socony-Vacuum Corp., at St. Louis, Chicago and Detroit. These plants are the Lubrite Refining Co. and the White Star Refining Co., near St. Louis; Wadhams Oil Co. and Bartles-Maguire Oil Co. plant at Chicago, and the White Star at Detroit.

Formally Declines Offer

LOS ANGELES, Nov. 28.—E. B. Reeser, president of the Barnsdall Corp., this week formally declined the presidency of the California Oil Producers Sales Agency. In a letter to Ralph B. Lloyd, now president of the agency, Mr. Reeser said he realized the importance of the position offered but felt that he should remain with Barnsdall.

Mr. Reeser was in California to consider unitization of the recently discovered Sespe producing horizon at Elwood. Plans are to withhold development of the Sespe until the upper sand is depleted or markets are better.

Remember Water Heater In Selling Anti-Freeze

DON'T forget the hot water heater when computing the volume of anti-freeze compound for cooling systems.

Hot water heaters are being used on a good many cars in northern states. With their hose connections they hold one to two quarts of water. In computing the volume of alcohol, glycerine, ethylene glycol, or other anti-freeze compounds to be added to the water in the cooling system it is safe to add *two* to the number of quarts' capacity of the systems shown on the NATIONAL PETROLEUM NEWS passenger car capacity charts. Otherwise the volume of anti-freeze compound added may run a little too light.

Propose International Oil Test Standards

CLEVELAND, Nov. 30.—National standardization bodies of 21 countries have been invited to participate in standardizing international nomenclature and test methods for petroleum and its products. The American Standards Association has issued invitations to participate in the work at the request of the International Standards Association.

Dr. R. P. Anderson of the American Petroleum Institute, has been named as American representative on the proposed international committee. He is also secretary of the American Standards Association committee having charge of standardization in the United States. Technical work of the American committee is directed by the American Society for Testing Materials.

Eight nations have indicated unofficially that they wish to cooperate in the international standardization movement. They are Austria, France, Germany, Japan, Holland, Hungary, Switzerland and Russia.

Equity Receiver Sought For Rio Grande

LOS ANGELES, Nov. 26.—Application is to be heard here Dec. 1 for a receiver in equity for the Rio Grande Oil Co. of Texas. Application was made by the Barnsdall Oil Co. and Interstate Equities Co., creditors. It is the result of a judgment for $2,137,500 given recently to Murray Shewitt, a broker. Shewitt, in a suit against Rio

Grande alleged the company failed to recognize an option given him for company shares.

It is understood that Shewitt will oppose application for a receiver on the grounds that the company is solvent and that receivership is intended primarily to prevent execution of the judgment given him. Barnsdall and Interstate are expected to claim that a receiver is necessary to conserve their interests as creditors.

The Interstate Equities Co. is an investment trust originally brought out by the Bancamerica-Blair group. It acted as manager of a revolving credit given Rio Grande a year ago by other persons. Of this credit $2,000,000 has already been paid off. Barnsdall has an open account for $25,000 due from Rio Grande.

* * *

NEW YORK, Nov. 26.—Sinclair Consolidated Oil Corp. has issued a statement in which it is said H. F. Sinclair was not an official of the Rio Grande Oil Co. and the corporation was not a stockholder in Rio Grande. It was also stated that Mr. Sinclair had been offered the chairmanship of Rio Grande but had never accepted it or acted in that capacity.

Government Opens Bids For Salt Creek Oil

By Telegraph

WASHINGTON, Dec. 1.—Bids for Salt Creek royalty oil were opened today by the Department of the Interior. Midwest Refining Co. offered the government the highest prevailing price posted by three major companies in Oklahoma and Kansas.

Producers & Refiners Corp. offered 22.25 cents per barrel above the highest posted price in Oklahoma, Kansas or Wyoming for the three-year period. A joint offer was made by The Texas Co. and the White Eagle Oil Corp. of 11.75 cents over the highest posted price in Kansas, Oklahoma or Wyoming in 1932, 13.75 cents over the top price in 1932-34 or 16.75 cents over the top for a four-year period to the end of 1936.

Archaic Anti-Trust Laws Should Be Modified, Says Beaty

DALLAS, Dec. 1

ANTI-trust laws which do not fit the times should be modified so that commerce can serve its purpose, asserted Amos L. Beaty, president of the American Petroleum Institute, before the Dallas Chamber of Commerce Dec. 1.

"Both restraint of trade and unfair competition are evils to be prohibited," said Judge Beaty. "The public interest, after all, is the important thing. I think every anti-trust law, federal and state, which does not already permit restraints which are in the public interest should be modified to that extent. All of which applies with especial force to the oil industry."

Fear of prosecution under anti-trust laws enacted to meet conditions that were different from those of today, caused hesitation in the oil industry to bring about immediate unit operation of pools, Judge Beaty pointed out. However, he added, the question was put on the anvil and hammered out.

The institute has approved the principle, he pointed out, that the owner of land is entitled only to his ratable share of the recoverable oil and gas, and gas energy in the common pool in the proportion which the recoverable reserves underlying his land bear to the recoverable reserves in the pool.

Judge Beaty said low prices for petroleum products without corresponding decrease in production costs had made profits in the oil industry almost impossible. This one case has had a greater effect on the business of the country than was generally recognized, he added.

A further curtailment of 10 per cent in production, he said, would have preserved the large buying power of the oil industry with far reaching effect. Economic law will eventually work a cure, he said. This means, he pointed out, that the business remains unprofitable until enough drop out of it, or are forced out, to leave profitable operations for those who remain.

"It is a hard rule but one that cannot be evaded indefinitely," he continued. "Already wildcatting has been brought to a halt. There are very few wells drilling outside proven territory. Millions of acres held under lease have been surrendered. Stripper wells have been abandoned never to pump again. The rule will work. But I wonder if there is no other remedy."

A remedy, he indicated, was conservation, the elimination of economic waste through unitization.

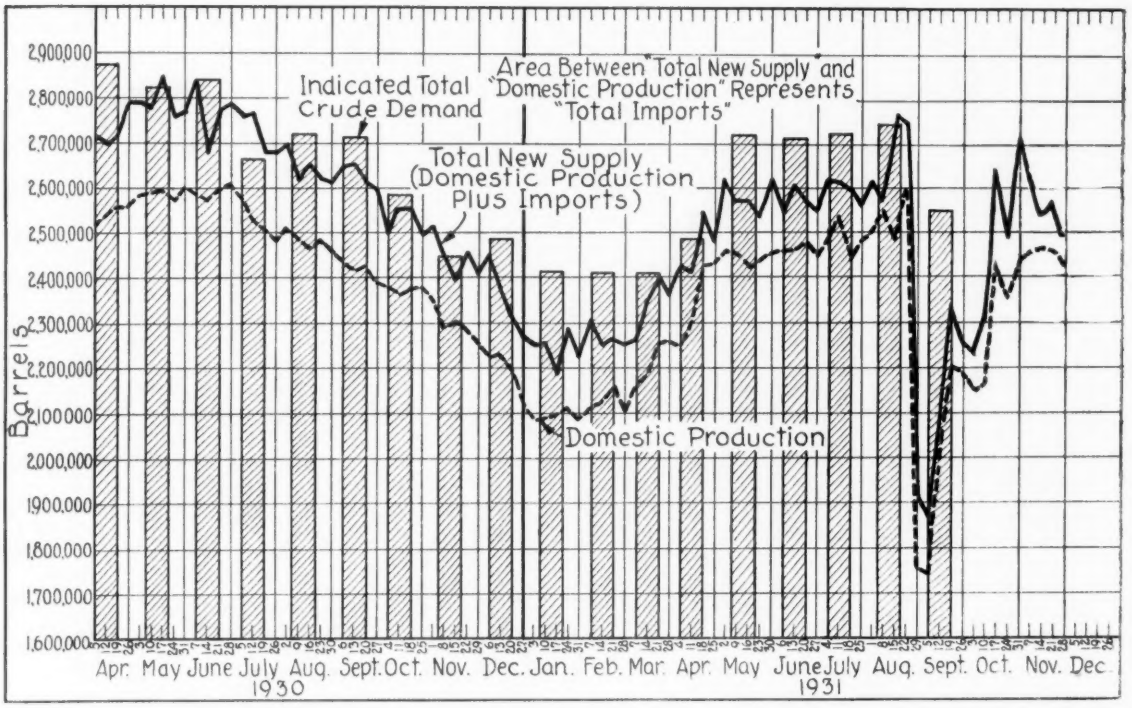
He said there were few new problems in refining and marketing. Refining capacity was excessive but the refiner can shut down his excess capacity when prices become so low that manufacture becomes unprofitable.

THERE is an excessive number of service stations, he said, but as long as someone can obtain remunerative employment by running a station there is not much to say about it. Losses will slow down installations just as profits stimulate them, he asserted.

Judge Beaty concluded his address with a statement of the gasoline tax evasion situation. He pointed out that tax evasion and bootlegging has grown with the growth of the per gallon tax. He urged the Dallas business men to help in the movements now under way to stamp out the evasion curse.

"Support the state officials who are trying to collect the tax," he urged. "Co-operate with honest dealers who are trying to make an honest living. Encourage them by your patronage. Take no chances with the shady ilk."

Review of Late Production News



This chart shows crude oil supply according to the American Petroleum Institute reports (solid line) in relation to indicated crude oil demand as taken from the Bureau of Mines monthly reports (shaded columns).

DOMESTIC crude production dropped 33,300 barrels daily average to 2,420,100 barrels in the week ended Nov. 28 the American Petroleum Institute estimates. Crude imports dropped 41,800 barrels to 75,857 barrels per day.

Oklahoma City production was off 26,000 barrels daily average and East Texas production rose 16,700 barrels daily average.

East Texas

NEW work started in the East Texas field increased slightly last week, there being 98 first reports. Completions declined appreciably when only 116 new wells were reported, compared with 150 the preceding week. The Gladewater-Longview district had 63 of the new wells, Kilgore obtained 15 and the Henderson area had 38.

Chief interest in East Texas field developments was centered on two wildcat tests in the vicinity of Jamestown north of the proven limits.

Shasta Oil Co. (Clifford Mooers), Beckett, Patten and Madden No. 1 Hall, about three and a half miles northeast of Jamestown on a 73-acre tract in the R. T. Gibson survey, Upshur County, claimed some of the attention formerly directed to Cranfill & Reynolds et al. No. 1 Rash estate, when base of Pecan Gap chalk was tentatively picked at 2955 feet, or 2606 feet below sea level. The formation was topped at 2467, or 2118 below sea level, considerably below points at which Cranfill & Reynolds et al logged the same marker.

Operators of Cranfill & Reynolds et al. No. 1 Rash estate, in the E. N. Eubanks survey, southeast of Jamestown, had not indicated when plugs will be drilled and a production test made. It is understood that work on titles within the block is delaying completion. The test showed 27 fourbles of 34 gravity oil in 10 minutes through drill stem test on Nov. 15. The tester was set at 3666 feet where casing was later set and cemented, but first oil in sand, which was stopped at 3706 feet, appeared at 3718 feet. Total depth of 3728 is 3399 feet below sea level.

Daily Average Production, Important Districts, American Petroleum Institute Figures

(By Telegraph)

	Week-Ended Nov. 28 Barrels	Nov. 21 Barrels
Okla. City	166,000	192,200
Oklahoma	523,850	558,550
East Texas	387,950	371,250
Total Texas	972,250	961,550
California	505,400	505,100
East of Rockies	1,914,700	1,948,300
Total U. S.	2,420,100	2,453,400

West Texas

JOHN SHIPLEY, Byrd and Harmon No. 1 Monroe, western Ward County wildcat test in Sec. 3, Block 1, W. & N. W. Survey, apparently had discovered production in the Delaware series, but was capable of only 100 to 125 barrels daily of 32.5 gravity oil from 4667 feet after an 80-quart shot. The well may be carried deeper. The Wheat pool in Loving county, the only other area in West Texas producing from the Delaware, is about 13 miles northwest.

A test two miles south of the nearest production in the Hobbs pool of Lea county, N. M., was

started last week. It was California Pacific Oil Co. No. 1 Adelia F. Blakey, in the northwest quarter of 28-19-37.

Kansas

THE Siliceous lime area of western Kansas had another fair producer this week in the No. 1 Stoltenburg, of Derby & Alladin, SW SE SE, 22-16-10W, Ellsworth county, which appears to be a quarter mile extension north for the productive spot found by the Gypsy Oil Co., last summer in the same section. The new well topped the lime at 3347, and at 3362 was swabbing 80 barrels per hour without lowering the 1500-foot fluid column to any noticeable extent. It is about 20 feet lower than the Gypsy discovery and does not have quite as good a production record, but the oil is just as good, testing 45 gravity A. P. I.

Oklahoma

OKLAHOMA was still in the throes of taking potentials and the total figures are even lower than was first expected. The Seminole area shows a considerable decline although the Carr City pool is not one of those contributing to the lower figure. As a result of Carr City's good showing 10 new locations were staked last week, all of them inside and nine of them in 2-8-5.

It is already indicated, however, that the whole of Greater Seminole will not show as great a decline as has the Oklahoma City pool which is off 14.7 per cent from the potential figures of last April. It is interesting to note where the decline in this area has taken place as regards the zones outlined in the latest order of the corporation commission. It was expected that the Arbuckle lime area in the heart of the pool would show a big fall, but the 47 per cent decrease was even larger than expected. It now has only 35 producing wells and its new potential is but a little over 20,000 barrels per day, a decrease of a similar figure.

The Wilcox sand potential is another surprise, for its newest allowable, based on four-hour actual flow doubled, is slightly less than a million and a half, a decrease of about 15 per cent. There are 169 wells considered as Wilcox producers. The lower Simpson is off approximately 8 per cent with a total new potential of 578,000 barrels from 336 wells, and the new zone known as the fault line, is up 65 per cent. There is little encouragement in this last figure, however, since there are but four wells in the zone and their total potential is only 5200 barrels. The total potential for the field is 2,083,921 as against 2,434,054 barrels in April.

For several weeks there has been a considerable leasing play north of the Oklahoma City pool and within the last 10 days leases have been taken within the northern limits of the city.

California

IMPROVED showings were reported in Petroleum Securities Co.'s Burbank No. 1, a deep test of the Kettleman middle dome, now drilling below 9250 feet. Gas pressure was reported good with streaks of oil sand that responded to ether cut. This well is the most important wildcat development underway in California at present, and a completion, even at the extreme depth, would stimulate interest in the area.

On the north dome of the Kettleman Hills, the Kettleman North Dome Association completed project No. 58-2P, Sec. 2, 22-17. Bottomed in the upper high gravity zone at 7133 feet, the well flowed at a rate of approximately 2200 barrels of 67.8 gravity oil and nearly 50 million cubic feet of gas.

Gas from this project and two offsets, belonging to Standard of California and also in the upper gas zone, is being furnished to public utility companies that supply the San Francisco and Los Angeles metropolitan areas. Although they are being produced in violation to the California gas conservation law, it is expected the well will be allowed to continue on production over the periods of peak gas consumption.

Continental Oil Co.'s Grubb No. 1, discovery well of the San Miguelito area, northwest of the Ventura Avenue pool, continued to maintain an even production curve of about 750 barrels of 29 gravity oil per day.

While this project hasn't any too much gas pressure, engineers thought the difficulty was due to thick mud in the lower hole that would eventually clean itself out. An increase in tubing pressure late in the week substantiated this outlook, but did not increase the rate of flow.

Brown to Head California Oil & Gas Ass'n

LOS ANGELES, Nov. 27.—J. A. Brown, president of the General Petroleum Corp., has been nominated president of the California Oil and Gas Association. C. E. Olmsted, vice president of The Texas Co. (Calif.), and R. A. Broomfield, president of the Barnsdall Oil Co. of Calif., have been nominated vice presidents. H. L. Westbrook, Belridge Oil Co., has been nominated for treasurer.

Nominations for the official family include presidents of five of the seven major California companies and a vice president and receiver of the other two. It is the first time that all heads of the major companies have been named for the board. In the past lesser officials on the board have had to defer action pending adoption of company policies.

The new directorate as nominated follows: K. R. Kingsbury, Standard of California; G. Legh Jones, Shell Oil Co.; Wm. F. Humphrey, Associated Oil Co.; L. P. St. Clair, Union Oil Co.; J. A. Brown, General Petroleum Corp.; C. E. Olmsted, The Texas Co.; R. E. Collom, Continental Oil Co.; Wm. C. McDuffie, receiver Richfield Oil Co.; F. D. Anderson, Ohio Oil Co.; F. C. Ripley, Chanslor-Canfield Midway Oil Co.; W. B. Pyron, Western Gulf; W. M. Keck, Superior; C. S. Jones, Rio Grande; Earl Gilmore, Gilmore Oil Co.; D. S. Faulkner, National Supply; Wm. Reinhardt, Kettleman North Dome Association; Ralph B. Lloyd, Oil Producers Sales Agency; J. A. Crawford, Republic Supply; A. C. Mattei, Honolulu Consolidated; A. B. Macbeth, Southern California Gas Co., and S. B. Mosher, Signal Oil.

Effect of a Third Grade Gasoline On Gallonage in Indiana

CLEVELAND

INTRODUCTION of a third grade of gasoline into Indiana apparently has had some effect in reducing the gallonage of cut price companies in that state. The third grade did not, however, regain for the Standard Oil Co. of Indiana, the gallonage it had lost in the past year.

The total gain in gallonage in Indiana since the third grade was introduced has been absorbed largely by Shell Petroleum Corp. and other large integrated companies. The 300 odd small Independent marketers doing business in the state have maintained their gallonage at roughly 20 per cent of the total in the state. These facts are revealed by a study of state tax reports from Jan. 1, 1930 to Aug. 31 this year.

Total taxed gallonage in Indiana from April to August inclusive gained 9.4 per cent over the same months in 1930. In this same period, while the third grade has been offered by others, Shell Petroleum Corp. and its partly owned subsidiary Shell American Petroleum Co. gained 11.1 per cent in gallonage. They sold their regular product at a price below the Standard and did not offer a third grade.

The 300 and more Independents gained 8.4 per cent in gallonage, slightly below the state total. Cut price and co-operative companies gained 23.8 per cent. The Standard Oil Co. of Indiana showed a loss of 7.2 per cent.

It seems quite apparent that the Shell's third grade policy was instrumental in the showing it made when gallonage for the first quarter of 1931 is considered along with the business done from April through August. In the first eight months of the year the Shell gained only 2.2 per cent in total gallonage as compared with the same period last year. This compares with the 11.1 per cent increase in the April through August period.

Cut price and co-operative companies in the state gained 38.5 per cent in gallonage in the full eight month period as compared with a gain of 23.8 per cent in the April through August period. This indicates that the rate of growth in cut-price business was reduced materially by the third grade policy.

Business of the 300-odd small independents was only 4.8 per cent greater than last year in the January through August period but was 8.4 per cent greater in the April through August period. This indicates that the third grade policy was of some assistance to the small operator.

An accompanying chart shows the gallonage by months of the Standard, Shell companies, a group of five large integrated companies and the cut price and co-operative group.

Figures used in the chart are taken from state gasoline tax records.

The payment of taxes on an import or tank car receipt basis has the effect of production sharp peaks and valleys contrary to the actual trend of the gallonage.

The curve indicates that cut price and co-operative companies' gallonage grew steadily from the beginning of 1930 until third grade gasoline was introduced and since has been tending downward. Shell interests showed a steady loss of gallonage until third grade was introduced since which it has regained its former position in the state.

The five integrated companies, which include Indian Refining Co., Lincoln Oil Refining Co., Mid-Continent Petroleum Corp., Sinclair Refining Co. and The Texas Co., have shown a more or less continuous gain in their percentage of the state's total gasoline business.

Some of the sharp gains in gallonage of the Lincoln Oil & Refining Co. and The Texas Co. in the past 21 months are due to the purchase of small Independent companies. These and

Taxed Gasoline Gallonage

Figures in Thousands

	1931							
	Aug.	July	June	May	April	Mar.	Feb.	Jan.
Regular Price Sellers								
Cities Service Oil Co.	885	926	860	779	636	521	402	510
Continental Oil Co.[1]	591	488	453	487	400	263	349	337
Deep Rock Oil Corp	194	220	188	199	175	178	148	193
Gafill Oil Co.	457	569	401	468	424	251	106	374
Gulf Ref. Co.	897	689	631	610	505	385	337	281
Indian Refining Co.	2,909	2,926	2,863	2,069	2,569	1,800	1,914	2,014
Johnson Oil Ref. Co.	717	816	682	638	723	455	413	508
Lincoln Oil Ref. Co.	2,661	2,491	2,250	2,162	1,964	1,643	1,387	1,540
Mid-Continent Pet. Corp.	1,078	1,167	1,038	1,172	886	656	681	721
Mid-Western Pet. Co.	433	412	370	352	332	302	301	302
National Refining Co.	594	641	547	429	411	267	404	270
Phillips Petroleum Co.	257	233	190	222	199	116	95	76
Pure Oil Co.	783	780	800	756	631	578	550	602
Shell Petroleum Corp.[2]	5,334	5,625	5,053	4,269	4,028	3,209	2,340	2,883
Sinclair Refining Co.	2,712	2,490	2,543	2,528	2,091	1,654	1,591	1,653
Standard Oil Co. (Ind.)[3]	12,766	13,793	12,298	12,622	12,542	9,200	8,865	9,192
Stoll Refining Co.	196	201	181	128	149	120	130	109
The Texas Co.	1,151	1,204	1,040	913	782	583	631	498
White Star Companies	781	672	530	611	572	425	364	592
Other Regular Price Sellers	9,573	9,380	8,852	8,700	8,437	6,850	6,078	6,568
Total Regular Price	44,969	45,723	41,770	40,114	38,456	29,456	27,086	29,223
Per Cent of State Total	92.7	92.5	93.0	92.5	91.2	90.3	91.2	91.4
Cut Price Sellers and Co-ops.								
Indiana Farm Bureau	1,025	1,047	727	980	1,269	780	657	580
Gaseteria Co., Inc.	389	301	280	281	329	364	197	339
Hoosier Petroleum Co., Inc.	383	390	351	267	399	300	332	364
Producers Oil Co., Inc.	171	188	156	165	212	230	174	189
Associated Service Oil Co.	171	261	306	280	292	270	185	187
Bryce Automobile Service Co.	69	132	156	109	79	62	62	110
Everybody's Oil Corp.	78	93	54	71	79	71	87	79
Low Price Filling Station, Muncie	133	158	124	133	127	95	107	107
Low Price Oil Co.	69	63	71	63	63	67	57	49
Meridian Pet. Co.[4]	62	54	69	57	94	81	65	48
Quality Gas & Oil Co. (Group)	108	93	88	78	65	77	87	71
Other Cut Price Sellers	865	911	786	781	712	751	601	630
Total Cut Price Sellers	3,523	3,691	3,168	3,265	3,720	3,148	2,611	2,753
Per Cent of Total	7.3	7.5	7.0	7.5	8.8	9.7	8.8	8.6
Total Taxed Gallonage	48,492	49,414	44,938	43,379	42,176	32,604	29,697	31,976

[1]Operates as Conoco Oil Co. in Indiana.
[2]Includes Shell American Petroleum Co.

SINCE compiling figures given in the accompanying article and preparing the chart of gallonage trends, figures covering taxed gallonage in Indiana during September have been received. The September figures show a continuation of the trend indicated earlier in the year.

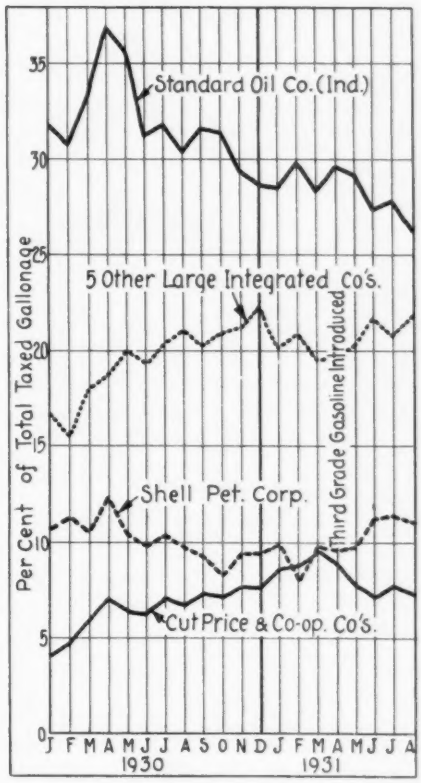
Taxed gallonage of the state in September was divided as follows:

	Thousands of Gallons	Per cent of State Total
Standard (Ind.)..	10,956	24.8
Shell	4,580	10.4
Next 5 integrated	11,151	25.2
Next 11 Companies	5,792	13.1
300-odd Regular Price Co's.	9,053	20.5
Total Regular Price	41,532	94.0
Cut Price & Co-ops	2,673	6.0
State total	44,205	100.0

other purchases also have been instrumental in keeping the rate of increase in Independent gallonage somewhat below the level for the state as a whole.

Detailed gallonage figures by companies are shown in the accompanying table. The table shows that cut price and co-operatives have built their business up since January, 1930, from about 1,250,000 gallons per month to about 3,500,000 gallons. Starting with a little more than four per cent of the state's business early in 1930, this group built up to about 9 per cent of the state's total in the early part of this year. This was reduced to a little more than 7 per cent after third grade gasoline was introduced.

After observing the trend of competition and merchandising for several months Max. L. Wickersham, executive secretary of the Indiana Petroleum Association, concludes that Independent marketers should abandon selling a third grade and center their activities on the sale of quality merchandise.



Trend of gasoline gallonage in Indiana

"Without question the 'blue' gas accomplished a degree of psychological effect on the so-called price cutters and will remain a club over their heads for some time to come," Mr. Wickersham says, "but the effect of 'blue' gas was accomplished the first 30 days and from a business economic standpoint, it should have been discarded.

"It should have been dropped because the oil industry as a whole was breaking down the years of educational campaigns to get the public to use quality fuel as well as quality lubricants.

"In view of the past experience with 'blue' gas, judging by our hindsight, the Independent dealer should have made a solid stand against the installation of 'blue' gas equipment. If he had stood on his two feet and used what he lost on his 'blue' gas on judicious publicity on quality in his locality, he would not today be in the position of being a dealer in shoddy merchandise.

"The price war would then have been between the majors and the below-normal stations.

"The introduction of 'blue' gas demonstrates to the motoring public that the industry as a whole recognizes the permanency of the price cutter."

in Indiana

of Gallons

1930											
Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	April	Mar.	Feb.	Jan.
514	709	361	479	432	441	441	303	267	118	114	169
360	319	464	293	466	405	347	336	294	342	275	218
136	183	225	241	261	263	236	232	160	172	164	162
238	357	295	467	402	494	333	351	469	437	268	331
321	384	458	400	415	454	363	395	373	329	210	237
2,540	2,465	3,087	2,970	3,169	3,190	2,604	2,742	2,623	2,855	1,479	1,975
386	554	575	625	583	654	485	558	394	503	287	286
1,573	1,696	1,895	1,778	1,903	1,892	1,682	1,486	651	671	491	510
649	637	843	789	768	801	674	788	728	676	486	529
300	377	326	256	309	317	307	267	230	218	147	107
319	375	474	382	319	337	332	336	283	241	245	255
19	....	....	....	....	....	....	....	....	....	....	....
743	668	636	743	771	689	679	643	583	645	477	517
2,988	3,295	3,530	3,914	4,267	4,856	4,127	4,213	4,415	3,783	3,140	3,211
1,770	2,059	2,441	2,457	2,612	2,840	2,479	2,454	2,247	1,885	1,495	1,674
9,141	10,404	13,311	13,489	13,371	14,880	13,118	14,337	13,272	11,852	8,525	9,349
119	136	171	179	161	170	165	170	172	130	123	104
620	667	613	696	772	858	716	622	469	351	322	266
415	568	527	623	664	632	547	600	524	550	474	476
6,350	7,014	9,239	8,787	9,178	9,240	9,819	6,723	5,267	7,747	7,637	8,000
29,501	32,867	39,471	39,568	40,823	43,413	39,454	37,556	33,421	33,505	26,359	28,376
92.5	92.5	92.9	92.8	93.2	93.0	93.7	93.6	92.9	94.0	95.3	95.9
558	620	705	733	600	735	484	652	728	552	222	125
205	363	311	348	262	363	256	156	211	181	103	159
333	337	423	436	443	443	373	308	161	148	144	146
212	180	257	202	211	296	327	243	278	245	190	175
153	152	156	193	220	152	132	141	133	108	78	79
126	110	139	105	120	111	97	112	103	91	61	59
39	39	47	85	93	93	64	86	71	63	47	..
55	71	70	54	62	77	78	85	94	79	48	33
33	24	39	31	31	39	41	39	62	47	32	32
....	....	....	....	....	....	....	....	....	....	....	....
87	117	101	93	85	85	78	55	39	40	16	31
579	664	774	799	875	853	705	700	683	567	370	338
2,380	2,677	3,022	3,079	3,002	3,247	2,635	2,577	2,563	2,121	1,311	1,227
7.5	7.5	7.1	7.2	6.8	7.0	6.3	6.4	7.1	6.0	4.7	4.1
31,881	35,544	42,493	42,647	43,825	46,660	42,089	40,133	35,982	35,626	27,670	29,603

[3]Includes Refiners Oil Co. recently purchased.
[4]Formerly Barton's Service Station.

East Texas Production Soon to Require Further Cut in Well Allowable

DALLAS, Nov. 28

SOMETHING appeared to be brewing in East Texas this past week with the sacred 400,000-barrel top limit of the field again in danger. That figure was decided upon by the railroad commission several months ago as the one which would prevent waste within the meaning of the law. Either a cut in the allowable production per well or a new plan was in order.

Gov. Ross S. Sterling, who assumed personal charge of the East Texas field Aug. 17, arrived in the field Nov. 24 and spent the next two days looking things over. At the start of his tour he said that he was considering changes in the curtailment system, but was not yet committed to any plan.

It will be remembered that the Texas Oil and Gas Conservation Association, organized about 60 days ago, submitted a plan to the governor in late October. It provided for a flat allowable on the acreage basis, in lieu of the well basis that has been in force since the field opened under martial law in September. The governor then said that he was impressed with the acreage plan, but so great a protest was voiced by small operators that he withheld action.

There is no doubt that a majority of the operators in the district want the governor to keep on handling the situation —with the troops. That chaotic conditions would prevail if the troops were removed there is little doubt.

Production of the field, as the week closed, was running around 395,000 barrels and at the recent rate of production gain—about 18,000 barrels daily in each seven-day period —the field will be well above the 400,000-barrel mark by Dec. 5.

In addition to the production gain, there are indications that demand for crude from this field is falling. The Texas Pipe Line Co., for example, turned eight connections to the Texas-Empire Pipe Line Co. of Texas, two to the Shell Pipe Line and three to Toronto Pipe Line Co. Stanolind is another buyer that currently is displaying little interest in new connections.

Some observers say that the market will not require more than 375,000 barrels daily of East Texas crude through the winter months.

Drilling continues at a brisk rate and it is evident that no relief from that direction can be expected so long as the flat allowable per well is maintained. The disposition is to keep on trying to maintain production, as successive reductions in allowable are made, by drilling more wells.

Since the field was permitted to open Sept. 15, the average has been 117 completions each week. It requires no great stretch of the imagination to see that if such a rate is maintained, the allowable will have to be down around 75 barrels per well —at present it is 125—in 20 weeks. It is expected, however, that some move will be made by the authorities long before that time that will put a penalty on drilling.

There follows herewith a tabulation of the ownership of producing wells, as of Nov. 21. At that time there were 3049 in the field. At the close of this week the count stood at 3200, approximately; final figures had not been made up.

East Texas Well Ownership as of November 21, 1931

Longview District

Owner	Producing Wells
Abernathy et al	2
Adams & Lyle	2
Alco Royalty	3
Alford et al	1
Alma Petroleum	6
Almeda Oil Corp.	1
W. A. Ambrose	6
Amerada	12
Arcadia Refining	1
Arkansas Fuel	47
Atlantic Oil Prod.	16
Atlantic & Cranfill-Reynolds	2
Atlantic & Skinner et al	3
Atlantic & Pacific Oil Co.	1
Badgett & Cooper	2
Bailey & Trimble	1
Barclay & Meadows	2
Barclay & Lincoln	1
Barnsdall Oil	12
Barnsdall-Sun	2
Bishop Oil Corp.	3
Black-Collins	1
Black-Knight	1
Blankenslip	1
Bowles Oil Co.	1
Breeding et al	1
Bristow & Rowan	1
Brookin-Mitchan	1
Byrd-Frost	2
Calif. Pet. of Venezuela	16
Canadian Oil	1
Cannon et al	2
Champlin & Bass	1
Chatham Oil	1
Cherokee Chief	1
Christian & Edwards	1
Citizens Oil	1
Clark & Cowden	4
Cloud & Dana	2
Collins, T. M., Trustee	1
Columbia O. & G.	7
Conservation Oil	1
Continental Oil	1
Corley & Blair	1
Cox & Hamon	4
Cranfill-Reynolds	13
Danciger Oil	4
Darby Pet.	1
Davis Pet.	1
Dean & Atchison	1
Deep Rock Oil Corp.	3
Delaney et al	1
Delaney & Stoddard	4
Devonian Oil	1
Diffey, Davis & McGhee	1
Dillard Drilling Co.	3
Dinham	2
Doran, et al	1
Duke, W. H.	1
Dyck Oil	1
East Texas Ref.	18
Elliott, Harry et al	1
Elliott, Harry W.	2
Empire O. & R.	14
Eslick & Little	1
F. & M. Oil	2
Fain-McGaha	8
Falvey Oil	1
Feazill & Curtis	2
Flannery & Bradley	2
Fleethorn Oil	2

East Texas Well Ownership as of November 21, 1931

Owner	Producing Wells
Fleming & Kimball	1
Fox Wood Oil	1
Fritz et al	1
F. H. E. Oil	10
G. & A. Oil	2
Galvez Oil	2
Gaskell, M. E.	1
Gibson Oil	1
Gilcrease	2
Gladewater Oil	1
Granite Oil	1
Gregg Oil	2
Grisham & Hunter	3
Guiberson	1
Gulf Prod.	26
Gynn-Overby	1
Hamill & Smith	3
H. B. W. Oil Co.	1
Hanbury, H., et al	1
Hanmaker & Lee	1
Hawkeye Oil	1
Hawkins, J. C.	1
Hayner, Tr. (Pet. P. L.)	1
Hayser-Heard	3
Hoffman & Hinshaw	1
Houston Oil	5
Howard Pet.	3
Humble	73
Idaho Oil	1
Inland Oil	2
Invincible Oil	2
Iowa Payne	1
Jenkins & Goldsmith	1
Jay-Kay Oil	1
Jones, et al	4
Jones, W. R.	1
Kidney-Loster	1
Kilgore, S. H., Jr.	1
King, et al	2
King, A. D.	2
Kroll, Cornelius, Tr.	1
Lacey Petroleum	1
Lempton	1
Leonard Petroleum	2
Lester & Duffield	1
Lion O. & R.	1
Little, I. C.	2
Lloyd Oil	2
Lockhart, H. L.	1
Lucey Petroleum Co.	4
McGee, H. W.	1
MacMillan	4
Magnolia	73
Mansen Oil	3
Manzell & Kouvi	1
Margay Oil	8
Marlin	1
Massey, J. H.	2
Meed Bros.	1
Meridian Petroleum	1
Mitcham, G. P.	1
Mook-Texas	3
Moss, Harry et al	1
Mudge Oil	6
Mullendore, Berry & Berry	2
Murphy, et al	2
O. G. Murphy, Tr.	2
G. C. Murphy	1
Nash-Windfohr	1
National Oil & Grease	2
Navarro Oil	3
O. W. R.	3
Oils, Inc.	2
Olvey & Sample	1
Osteen, et al	1
Pace, Geo. L. et al	2
Packham, et al	3
Pederson & Merritt	1
Pelican Nat. Gas	1
Perkins, et al	1
O. J. Perrin, et al	1
Pet. Finance Corp.	1
Pet. Purchasing Co.	1
Phillips, B. F.	1
Pilot Oil	6
Prarie O. & G.	7
Premier Oil	2
Prince Bros.	1
Production Purchasing	1
Pruitt & Miles	1
Rancho Oil	3
Ray & Miller et al	1
Republic Prod.	4
Robberts	1
Roeser & Pendleton	15
Rott & Rhodes	1
Rowen & Nichols	3
Rudman & Emanuel	1
Sabinas Oil	6
Sakabo Oil	4
Satellite Oil N.	1
T. S. Schroeder	1
Seigler-McCall	2
Selby Oil	7
Sells Petroleum	1
Shano Oil	1
Shasta Oil	3
Shell Pet.	22
Showalter-Russell	1
Showers, E. A., et al	1
Showers & Moncrief	2
Shrivers Oil Co.	1
Sikes, L.	3
Silbefield	1
Simms, et al	3
Simms & Stanolind	2
Simmons, D. J.	1
Sinclair O. & G.	28
Skipper Oil	1
Skipper & Bivins	1
Smith, et al	1
Sneed & Worley	2
Spratt, F. D., et al	1
Stack, et al	1
Stanolind O. & G.	40
Sun Oil	33
Superior Oil	7
Sutton & Hawkins	2
T. P. Coal & Oil	2
Tarver, H. H.	1
Tarver, A. H. et al	1
Taxman, et al	1
Texan Oil & Roy.	1
Texas Co.	12
Texnia Oil Co.	1
Texota Oil Corp.	2
Thomas, et al	2
Tidal Oil	15
Travis-Wair Oil	1
Trico Oil & Clapton	2
Turnbow	3
Turner, et al	4
Vacuum	14
Vierson, et al	1
Virginia Oil	2
Wentz Oil	1
Western State Ref.	1
Western State Roy.	1
Whale Oil	1
W. W. Wheeler, et al	1
Whittington, et al	3
Whittington, J. C.	1
Wise & Jackson	1
Wrightsman	2
Young Bros. & Alexander	1
Yount-Lee Oil	68
	962

Henderson District

Owner	Producing Wells
Acme Oil	1
Adams, et al	2
Adams & Lyles	1
Anderson, Audy	1
Anderson, Geo. S.	6
Arcadia Ref.	2
Arkansas Fuel	8
Arrow O. & G.	1
Arrow Ref.	1
Aston, et al	1
Babcock Bros.	1
Baldwin-Sutton	1
Ball Oil Co.	1
Bass, J. C.	4
Beard & Hammond	1
Berry & Lewis	1
Biddison	1
Big Indian Syn.	3
Big Indian Oil & Dav.	2
Bill & Dave	2
Blackwell O. & G.	5
Bond, R. W.	1
Bowser & Bueckett	1
Boone Ref.	1
Bridwell O. & G.	1
British American	12
Brogan, J. H., Tr.	1
Bryant, M. D.	1
Burkett, Joe	1
Burnham Oils	1
Bunte, et al	2
Bussa Oil	2
C. P. Oil	8
Cameron & Anderson	1
Carter, Ray I.	1
Carter & Johnson	1
Champlin & Bass	2
Chapman, E. L.	1
Cloud	3
Collins, Stroube & Stroube	2
Conservation Oil	3
Coogan, F. L.	1
Cooper, et al	1
Combs, E. E.	2
Como Oil	1
Concord Oil	1
Consolidated	12
Coastal Oil & Dev.	1
Corbin	1
Corzelis, P. F.	1
Crabtree	1
Cullen Oil	1
Deepoil, et al	3
De Armond	1
Deep Rock O. & R.	4
Derring, R. H., & Son	2
Devonian	2
Devonian & Barksdall	5
Dinley & Chastain	1
Droppleman	2
Dumas Petroleum	1
Dunning, W. H.	1
Dunning & Holt	1
Durbin, M. H.	1
Dyck Oil	1
Earl, et al	1
Eastshore	1
East Texas	21
Ebony Oil	1
Elliott	2
Elzy	1
Erlewine, et al	2
Estes, Joe	1
Etnyre Pet.	1
E. & H. Oil	1
Falcon Oil	4
Fair, et al	1
Federated Oil	8
F. H. E. Oil	3
Fitzsimmons	1
Ford & Sample	1
Foster & Jeffries	1
Foster & Klop	4
Fox & Butler	3
Gibson & Johnson	1
Gilcrease	4
Golding & Murchison	21
Goude, et al	3
Gracy & Cronn	1
Grayburn Oil	2
Great Eastern Oil	1
Great Plains	1
Gulf Coast	8
Gulf Production	58
Gulf States Dev.	1
Hamilton, W. B.	3
Hammond, et al	1
Hanberry, et al	1
Haynes Bros.	9
Hoffman, et al	1
Hollifield, et al	1
Hooser, John	6
Houseman & Walters	1
Humble	195
Hunt, H. L.	64
Hunt, H. L. & Vaughn	2
Imperator Oil	2
Indian State	1
Indian Syndicate	1
International Oil	1
Johnson, C. M., Tr.	1
Johnson, T. A.	1
Johnson, et al	2
Jones, E. W. & F. D.	2
K. & M. Oil	1
K. & P. Oil	1
Kenwood Oil	2
Ketch, L. B.	1
Kirby Petroleum	6
Laster, et al	1
LeMaster	1
Leonard Pet.	2
Lewis, Stanley	1
Lide & Rowe	2
Lide, et al & Tayloe	4
Lion, O. & R.	10
Lively & Brian	2
London Petroleum	1
Lone Pine Oil	2
Lucey Petroleum	4
Luling, O. & G.	2
McCutchin, Alex	2
McIntyre Drilling	2
McMahon	2
MacMillan Petroleum	2

East Texas Well Ownership as of November 21, 1931

Owner	Producing Wells
McDaniel & Plummer	1
McMurray, Jim	1
McMurray, M. J.	2
McMurray, R. H.	1
Mabee, John	8
Magnolia	25
Malernee	1
Manahan	1
Martin & Cochran	3
Merrick	1
Mid-Kansas	26
Mitchell, E. B.	2
Moss-Urschel	3
Nash & Strickland	1
Navarro Oil	1
O'Hearn, J. J.	3
Oliphant, A. G.	1
Olsen	6
Oritz Oil	2
Overton Ref.	1
Owenwood Oil	3
Pace, Geo. L.	1
Panhandle Ref.	1
Pansy Oil	1
Perry, et al	3
Petroleum Marketing	7
Phillips, A. W.	1
Philmac	1
Pilot Oil	5
Pointer Oil	1
Pollard, Jim	2
Prairie, O & G	5
Prince, et al	1
Pruitt, Nelson	1
Pugh & Hickman	2
R. M. V. Oil	6
Reed & Reed	1
Republic Prod.	2
Roberts Oil	2
Robertson Drilling	1
Roeser & Pendleton	6
Rowe, W. H.	2
Ruben & Wiseman	2
Russell & Terrell	1
Rusco	1
Russack, Dan	1
Shasta Oil	2
Shaw Oil	8
Shell Pet.	1
Sinclair, O. & G.	82
Snetcher & Pittman	2
Southern Prod.	2
Standard Pipe	2
Stanolind, O. & G.	10
Stewart, E. W.	1
Stoddard, et al	2
Stroube & Stroube	1
Sun Oil	31
Suni Oil	2
Sutton	1
Texas Co.	24
Texas-Jersey Oil	1
Texas Trading	1
Tex-Lloyd	1
Texokan Oil	1
Thompson, et al	1
Thompson & Bean	1
Tidal	21
Trapshooter Riley	1
Trico Oil	1
Tulsa Oil	4
Turnstill, et al	1
Turman Oil	13
Universal Oil	1
Vaughn & Grady	3
Venturn	1
Virson, et al	1
Vietek Oil	6
Wade & Reynolds	1
Wainwright	2
Ward	11
Weaver Trust	1
West Texas O. & R.	2
Willard Oil	1
Wilie, C. J.	1
Woodley Pet.	1
Wylie Oil	1
Wise & Jackson	4
Witherspoon	2
	1058

Kilgore District

Owner	Producing Wells
A. B. C. Oil	1
Abercrombie	6
Anderson, G. S.	1
Angle, W. M.	1
Arkansas Drilling	1
Arkansas Fuel	1
Atlantic Oil Prod.	8
Atlantic O. & R.	9
Barnsdall Oil	5
Beard, J. C., et al	1
Beard & Hanon	1
Bell & Graddy	1
Bennett, Mills	7
Blackstock Oil	1
Blackstock, H. L.	1
Black-Strobe	1
Bridges, Milton	1
British American	6
Burton Drilling	5
Byrd-Frost, Inc	5
Cal-Tex Oil Co.	1
Cameron Oil	1
Cargill & Dudley	1
Cash & Coleman	1
Chapman, E. L.	2
Choctaw Oil	1
Clark & Kinnebrew	1
Combination	1
Coin, Aaron	1
Collins, Stroube & Stroube	2
Continental Oil	4
Corbin, W. A.	1
Cordova Union	10
Cranfill-Reynolds	11
Cromwell & Williams	1
D'Armond	2
Darby Petroleum	1
Dawson, C. K., et al	1
Deep Rock	1
Devonian Oil	8
Dink Oil	1
Duncan	1
East Tex Loan & Dev.	1
East Texas Ref.	11
Edison Petroleum	1
Elliott	9
Empire, O. & R.	10
Everetts et al	3
Findley & Dyke	1
Flanagan Prod.	1
Fox-Wood	1
Friedman Oil	1
Friedman Oil & Swindler	1
G. & R. Oil	1
Galvez Oil	2
Glasscock Bros.	1
Golding & Murchison	7
Gold Star Oil	1
Great Western	1
Gulf Prod.	118
Guthrie, Geo.	1
Hastings Oil Co.	1
Hawkeye	4
Heap Oil	1
Hindman, G. W.	1
Hopkins	1
Horseshoe Syn.	1
Houston Oil	30
Houston Prod.	2
Humble O. & R.	111
Humphrey et al	1
Hunter	7
Hunter Oil Corp.	1
Invincible Oil	2
Iowa Payne	3
Island Oil	1
Jayatt	1
Johnson & Yarbrough	1
Jones, Eddie	14
Jones-Doss	2
Jones & O'Brien	1
Karona Oil	3
Kathleen Oil	2
Key, H. P.	2
Kingwood	1
Kirby Petroleum	1
Kleimer, Chas.	1
K. & P.	2
Knox, et al	1
Lambert & White	1
Lambert-Hines	1
La-Tex	1
Leonard	2
Lewis Prod. & Selby	5
Lion Oil & Refg.	1
Lone Star Oil	1
Louisiana, O. & R.	1
Luling, O. & R.	3
Lyons, C. H.	2
McAlester Fuel	1
McDonald	1
McIntyre, J. D.	1
McMahon	3
McMahon & British American	2
Mabee, I. E.	1
Madden	1
Magnolia	72
Manahan, et al	5
Marine Oil	4
Markham & Dunning	4
Martin, Ray, I.	1
Martin & Sladik, et al	2
Mazda Oil	1
Merren & Hays	2
Merrick	1
Moss, et al.	1
Moss, Harry	1
Mullendore, Berry & Berry	3
National Securities	1
Navarro Oil	9
Neff, et al	1
O'Byrne, et al	1
Octagon Oil	1
Oklahoma Petroleum	1
Oliphant, A. G.	7
Oliphant & Goldrick	1
Olvey	5
O'Neal, John T.	2
Oriental Oil	1
Oritz Oil	1
Pace Petroleum	1
Plummer, Albert	1
Prairie, O. & G.	10
Premier Oil	1
Rector & Davis	1
Refugio Oil	1
Republic Prod.	14
Roberts & Roscoe	2
Rowntree Oil	1
Rushing Oil	4
Russell, Frank	1
Ruston Drilling	1
Salmon Oil	1
Sampson, et al.	1
Selby Oil & Gas	1
Shell Pet.	78
Shoreline Oil	1
Sinclair O. & G.	44
Smith, F. L.	1
Smith, H. R.	5
Smith & Bohlssen	1
Sneed Bros.	1
Snowden & McSweeney	11
Spear, H. K.	1
Stanolind, O. & G.	28
Stan-Tex	2
State Prod. Co.	1
Steen Drlg. Co.	1
Stoddard, J. B.	2
Stroube, Wheelock, Collins	1
Sun Oil	27
T. P. Coal & Oil	1
Texas Co.	22
Texas Unity	1
Thomas, C. S.	1
Thomas, Sam, Trustee	1
Thompson, Dr.	2
Tidal Oil	44
Trapshooter Riley	1
Tucker	2
Turman Oil	8
Upchurch & Allen	2
Vice, et al.	3
Vierson, et al.	2
Vireca Oil	1
Wainwright-West	1
Wallace & O'Neal	1
Walton, et al	1
Walton-Turbeville	1
Ward Oil	1
Weaver & Crim	5
Webster, et al	1
Wells & Gann	1
Werby et al	2
West Florida Oil	1
Westheimer & Daube	6
Wheelock, Collins	3
Whittle-Kavanaugh	4
Wilson-Brown	2
Winston Oil	2
Wise & Jackson	1
Wolfe, R. A. & Bradley	1
Woodley Pet.	12
Wychliffe, et al	1
	1029
Grand total all districts	3049

New A.P.I. Vice-President Pioneer In Gas Conservation Methods

WHEN the American Petroleum Institute looked about at Chicago at the last annual meeting to choose a vice-president for the production division, it selected a man who, like his predecessor, Robert R. Penn, already had won his spurs in conservation work.

Charles F. Roeser, of the producing firm Roeser & Pendleton, is that new vice-president. His name has been much before the public of Texas and the oil industry of the nation in recent months. He was on the side of the confirmed prorationists — conservations, if you please—ever since it became necessary to hold back the big crop of oil which the explorers found in West Texas.

Then, when East Texas came along, he assumed a leading role in several phases of the restrictive work in that area, was drafted for other phases. He is president of the Texas Oil and Gas Conservation Association, which was organized about 60 days ago and which came into being on a formal basis early in November. It was that association which drew up a plan of handling East Texas on an acreage basis, suggesting this to the governor to replace the well allowable basis that has been in effect for several months.

To adduce further proof that Mr. Roeser, in the more recent aspects of the situation, has qualified himself to head the conservation work to which the A. P. I. stands firmly committed: He went through all that jockeying in Austin last winter and summer when the legislature was trying to bring forth a new conservation law. He appeared before committees of the legislature and later before the railroad commission. The latter was at that time trying to get together an order that would satisfactorily handle East Texas. The dismal failure that resulted was none of Mr. Roeser's doings. His testimony is in the record.

But it was none of these latter-day ventures that marked the subject of this sketch as a conservationist. His works preceded his public utterances. He went out and pioneered in a new field, then let others know the results of his labors.

All of the production engineers in the country and a large number of the executive heads of companies are acquainted with the splendid way the Cook pool, of Shackleford county, Tex., has been handled. It was the first large-scale experiment in the country of returning gas to the pay sand as it was produced thus maintaining reservoir pressure, making the gas do the work of increasing the recovery of oil and, as an important subsidiary feature, controlling edge water encroachment. It was work of the highest importance to the industry and the literature of petroleum technology has been full of the Cook pool for the past four years.

And, it was no mere laboratory experiment. It was carried out with utmost consistency. It required no small restraint at times to keep the practice going as planned. With oil at $2.60 per barrel, it took faith of almost a fanatical character to shut in 40 producing wells because they were producing an excessive amount of gas per barrel of oil—acting as relief vents for the reservoir pressure which the operator was trying hard to maintain.

One does not, of course, give Mr. Roeser all of the credit for the results obtained and the knowledge gained in the Cook pool. His partner, T. T. Pendleton and the old Marland Oil Co., with which the Roeser & Pendleton firm pooled its acreage to form a unit field, had as much to do with it as did Mr. Roeser. One is impelled to make this statement and to distribute the credit all around because Mr. Roeser is a modest man and would be the first to insist that his part in the enterprise was no greater than that of his associates.

He sees the coming year as one of great opportunity for the production division of the institute. That division has certain activities, now firmly grounded and almost routine, which the desperately efficient Mr. Carl A. Young, secretary of the division, handles. These matters include standardization of oil field equipment, corrosion in the producing and pipeline fields, formal organization work of the division and its various district departments and field chapters. The vice-president does not need to concern himself over much with such affairs. If he is needed, Mr. Roeser is in Fort Worth and Mr. Young is in Dallas and being only 30 miles apart, close co-operation is simple.

It is the broader phases of the producing division policies, its economic aspects, upon which Mr. Roeser will concentrate and will insist that the division center its attention on. There is the new declaration of the institute, made at Chicago, that oil and gas and gas energy belong to the owners of an oil pool in the proportion to which anyone owns them in place. That is to say, the industry, or a considerable part of it—there are still dissenters—are committed to the theory that nobody is entitled to take from a pool more than underlies his property, as contrasted with the theory under which the industry has always operated which was that an operator was entitled to what he could grab.

NOW, how shall this new doctrine be applied? Nobody knows, yet. But the institute appointed a committee of the directors to report within 60 days a workable and practicable plan—one guaranteed to preserve the equities—which report will be acted on by the directors and a way sought to put it into immediate operation.

This is rather a large order. Among Mr. Roeser's little chores is that of being chairman of the committee which will draw up this plan. He doesn't know how it will turn out and neither does anyone else, but

they are going to have a try at it.

"I believe that the conservation work now under way will result in a settled policy of oil field operation that will bring stability to the entire industry," Mr. Roeser declared. "The production division will be intimately concerned with furthering this work. It will have before it the coming year an intensive study of the spacing of wells. The knowledge which has been acquired over many years can be applied to this very practical question. Unit development is an important phase of conservation and it must be pushed everywhere possible. I believe in it and as the firm with which I am connected has participated in several unit projects, I have reason for this faith."

"Mr. Roeser," was the question, "do you believe that, if the oil production of the country gets into a condition of natural balance—if there is a demand for the discovery of new pools, backed by a rising market—that the industry will suspend its efforts toward unit operation, its conservation program and fall back on the old scheme of getting while the getting is good? Are these things merely bad weather devices, to be abandoned as soon as everybody starts making money again?"

"Positively not," was the reply. "The industry has learned that stability will come only through the orderly producing of oil as the needs of the consuming public require. This thing of getting out a barrel today at an attractive price, and wasting the gas energy in such manner as to leave behind four barrels that never can be captured, is a practice that I believe is in the process of being abandoned forever. There will be places here and there where the old-time race to get the flush oil out, regardless of what losses in ultimate recovery are sustained, will be carried on. But such episodes will be fewer as time passes and will finally be ended altogether.

"For one thing, the public has been aroused to the economic losses of the past. And, for another, what has been called the 'enlightened self-interest' of the operators will compel a new order of things, along the line of the Institute's declaration in Chicago. If full justice is done to all operators in a pool, then oil must be produced at whatever rate best serves in a particular pool to recover as many barrels of the original oil content as possible. That such a rate must be a slow one, compared to the practices of the past, nearly every operator now realizes.

"Our chief problem in the future will be the fellow who gets into an oil field with an acre or so and tries to make a quick cleanup by draining his neighbors' leases. It may be that legislation will be needed in some states to take care of that fellow. If it is, it will be had, for the public now knows that opportunism and conservation cannot be mixed."

Mr. Roeser, now a confirmed Texan, was transplanted from Ohio, via Oklahoma. He was born in Marietta and his father, William Roeser, Jr., was an oil producer; the one who opened the famous Corning field of Ohio. Charles F. Roeser was graduated from Marietta Academy and attended Marietta College for three years. Then the call of the oil fields grew too strong to be resisted, so he packed up and went to Tulsa. He arrived there in 1906, just when the Glenpool was warming up, and with his brother, W. H., developed on their own account several properties. Later, he was in Cushing, Okmulgee and several other fields of Oklahoma.

He started out to help the A. E. F. and got as far as Camp Augusta. After eight months of training in machine gunnery, the bottom fell out of the war, and back he came to the oil business. Ranger was going strong then, so he went there in January, 1919. He became associated with Mr. Pendleton early in 1920 and in 1925, the firm was incorporated.

He lived in Breckenridge until 1925, when he moved to Fort Worth. His firm has been active in the natural gasoline business and in production, but has never gone into refining. At this time it operates properties in four counties of west central Texas and has production in the East Texas field.

Pioneer Producer Dies

OIL CITY, Pa.—William Preston McCray, a pioneer oil operator of Petroleum Center, died there Nov. 18. He drilled the first well on the famous McCray farm in 1873, opening the pool of that name.

TORONTO—A new oil field has been opened up in southern Alberta when the Keho No. 1 of the Hudson's Bay Oil & Gas Co. came in 18 miles northwest of Lethbridge at a depth of 4925 feet. The oil tests around 33 degrees Baume. The oil was accompanied by a flow of gas estimated at 750,000 cubic feet daily.

Source Sediments for Oil In Research Project

NEW YORK—Study of deposits of past geologic ages has been started by research workers of the American Petroleum Institute in an effort to determine the origin and environment of source sediments present in petroleum.

Investigation of conditions under which sediments in the future might be source beds of petroleum was brought to a close June 30 by Dr. Parker D. Trask, director of the Institute's research on this project. Four types of fields were selected for detailed study, including the Burbank field as representative of the Mid-Continent, the Salt Creek field, of the Rocky Mountain area, Santa Fe Springs, in California, and the East Texas field.

Laboratory space for making analyses of sediments has been provided by the Tulsa University School of Petroleum Engineering and the U. S. Bureau of Standards, Washington, for the research fellows W. Ross Keyte and Harold E. Hammary. Mr. Hammary has made preliminary analyses of 1500 samples of sediments from Oklahoma, Kansas and Wyoming, and Mr. Keyte has begun an analysis of 2700 samples from the Burbank field.

A meat truck equipped with a Shell Petrogas system. The compartment temperatures were reduced from 60 degrees to 35 degrees in a run of about one hour

Liquid Petroleum Gas Developed As Fuel, Refrigerant for Trucks

SAN FRANCISCO LIQUEFIED petroleum gas has been developed by engineers in laboratories of the Shell Oil Co. for use as a refrigerant and a motor fuel on trucks.

Commercial use is being made of the process now on trucks transporting perishable goods. It is expected the process will be adaptable for motor buses also, for air conditioning and as a motor fuel; and as an air conditioner on yachts, dining cars and other mobile units.

Several companies on the Pacific coast are experimenting with propane or butane gas, or a combination of the two, as motor fuel for anti-knock and absence of crank case dilution qualities.

An accompanying diagram illustrates the Shell system as used on a truck. Liquid gas is carried in cylinders, with a pressure of 50 to 75 pounds per square inch in the line, to a high pressure regulator.

At the regulator the pressure is reduced to about 5 pounds, and the liquid gas passes into a system of expansion coils. As the liquid evaporates in the expansion coils heat is absorbed from the truck compartment cooling the interior.

It is considered possible to obtain temperatures as low as 25 degrees below zero. Low temperatures may be obtained by regulation of the pressure valve, dependent of course on the rate of consumption of motor fuel.

The second regulator is placed at the outlet of the expansion coil. Pressure on the gasified fuel is reduced to the vacuum existing in the manifold of the truck engine. The suction of this vacuum draws the gas through the delivery tube to the carbureter.

The low pressure regulator is set to close and shut off the flow of fuel gas when pressures on the down-stream side reach that of the atmosphere. As soon as the slightest vacuum exists in the intake manifold of the carbureter the suction is transmitted to the low pressure regulator and the flow of fuel is automatically started.

As a motor fuel the liquefied gas is claimed to be perfect from an anti-knock standpoint, to materially reduce carbon trouble, and there is an absence of crank case dilution.

The system may be adapted to a truck without removing the regular gasoline system or by other alterations aside from a gaseous adapter on the carbureter. An adapter has been developed in the Shell laboratories for the use of dual systems which can be operated at the discretion of the driver.

While the system has been designed primarily for trucks carrying perishable products, it can be used also on passenger cars. A special warming device is installed on the fuel line to

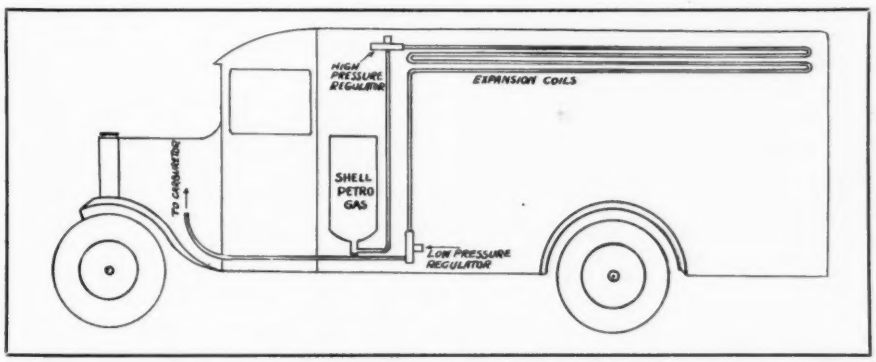


Diagram of Shell Petrogas refrigerating and fuel system. Liquid petroleum gas passes from the storage tank through the high pressure regulator and becomes a refrigerant in the expansion coils. From the coils it passes through the low pressure regulator, and is used as motor fuel

counteract the refrigerating action of the liquid gas.

Through development of the process a new field in transportation will be opened, it is anticipated, as perishable products can be moved in trucks at low cost. Low temperatures can be maintained in trucks without the use of ice, or mechanical refrigeration, and there is a substantial savings in a greater pay-load.

D. W. Davisson, head of the automotive department, and F. G. Welke, experimental engineer for Shell, conceived and developed the idea. The liquefied gas carries the trade name of Petrogas. Test operations on the system have been made for more than 25,000 miles.

New Briquet Process Impractical, Technologists Say

COMMENT has been received by editors of NATIONAL PETROLEUM NEWS on the process for making coke briquets as discussed in the article "Binder Is Critical Factor in Briquetting Refinery Coke" published in NATIONAL PETROLEUM NEWS, Sept. 30, 1931, page 25.

The article discussed the development of a process for making briquets, or "Blox," as employed by the Kleen-Blox Engineering Co., in a plant at Council Bluffs, Iowa, and the claims made for the process by its owners and operators. Briefly it consists of the following operations, as outlined in the article: drying of the coke, "as is"; mixing dried coke with a heavy petroleum residual as binder, at an elevated temperature; compressing measured quantities of this mixture in a suitably designed press into the form of briquet desired; cooling of the completed briquet.

A number of firms in this country have been studying for years the problem of properly and economically briquetting petroleum coke. A great amount of effort and money have been expended in attempting to solve the problem satisfactorily.

One of the criticisms received was from Alfred Fisher, well known coke technologist now with the Universal Oil Products Co. of Chicago. His letter is as follows:

"In reference to the article on "Briquetting Refinery Coke" by Arch L. Foster, appearing in NATIONAL PETROLEUM NEWS, issue of Sept. 30, there are one or two points which may be misleading to those not conversant with this art.

"In the first place, an error appears in the specification given for the binder. No such asphalt binder can be produced.

"Secondly, an illustration is given as typical where 100 pounds of asphalt binder is used per ton of finished fuel. This represents 5 per cent on the finished fuel if short tons are in mind, and with such sized blocks and pressures of 80,000 pounds over such an area, certainly would not give an "unshatterable' briquet.

"Briquets formed under these conditions and of this shape would be subject to considerable degradation under normal shipping conditions, particularly on account of the sharp edges presented in a rectangular briquet.

"It appears that costs are not taken into consideration in regard to the drying of the coke or pulverizing. This latter feature of pulverizing is very essential to get a briquette of uniformly strong structure.

"Two tons per square inch is the normal pressure exerted on briquets of much smaller dimensions, and is necessary in order to get the strength in the finished product. Such pressures have to be increased when a larger volume of material is to be pressed to get satisfactory results.

"The proportioning of particle size is extremely important in getting strength in a briquet as this feature is largely dependent on the interlocking of these particles with the proper amount of voids for binder. A large piece gives rise to a weak line of cleavage, a number of them giving a weak briquet.

"It is also indicated that briquets formed in this way are smokeless. Briquets untreated after formation with a binder from asphalt are always smoky which smokiness is an inherent quality of the asphalt and is responsible for resorting to secondary baking to produce briquets without this drawback."

The specifications of the binder referred to in the above letter are:

Softening Point .....138-146 F.
Penetration @ 77 F.,
(asphalt test) 8-12
Volatile matter 0.01%

Refinery and asphalt technologists who have been asked to give an opinion of the practicability of commercial manufacture of such a binder, have stated that there appears to be no cogent reason why such a binder cannot be made. According to their opinions the penetration given is somewhat higher than in most present day specifications for similar materials, in comparison with the softening point given. It appears feasible, however, to produce such a binder within reasonable price limits.

The observations included in the above letter are in general corroborated by H. F. E. Gamm, president of the Briquetting Machinery Co., New York, who states that one of the great obstacles to the development and general adoption of a satisfactory briquetting process is hindered by "impractical schemes." His opinions are best given in his own words below:

"While we hesitate to say anything against our competitors, the whole scheme is so antiquated in principle, costly in operation and crude in general application of well-known requirements as applied to briquetting, that we feel the public is imposed upon to an inexcusable degree.

"Briquetting, at its best, has a hard row to hoe. One of the greatest obstacles is just such

impractical schemes as this one.

"Our thirty years of experience condemns this shape of briquet, the process and the statements claimed.

"There is one plant making good petroleum coke briquets in existence. The Magnolia Petroleum Co., near Beaumont, Texas, has been operating the past two years.

"To produce any tonnage at all, continuous feeds and measuring devices, proper pulverizers, dryers, preheaters and mixers must be provided.

"A press that will give 2000 to 2500 pounds a square inch pressure and make a suitable size briquet for good combustion conditions is imperative. The briquets must be handled by mechanical means to the cooling system, and when set or cold must be of sufficient strength to stand shoveling, spouting and storage within an hour or so. The briquets should be quite smokeless or very disagreeable odors arise in burning.

"All oil coke cannot be briqueted "as is." If the volatile content is above 7 per cent, the coke must be *pretreated* to remove the oils.

"It is understood that other plants of this type are under construction or being contemplated, both for briquetting coal breeze and also petroleum coke. The result of the employment of this process in a commercial way will be watched with considerable interest by those concerned with the disposal of coke as a refinery product."

Stoker Manufacturers Association, Foot of Walker St., Detroit, has issued a 40-page condensed catalog showing 48 types of stokers manufactured by 14 companies.

The various stokers are grouped into the following classifications: multiple retort underfeed stokers, single retort underfeed stokers, chain grate stokers and overfeed stokers.

The text is limited to engineering descriptions of the various types of machines, and a supplementary section on engineering data relating to modern stoker practice is included. Copies will be sent upon request.

S. O. California Companies Build 19 Butane-Air Gas Plants

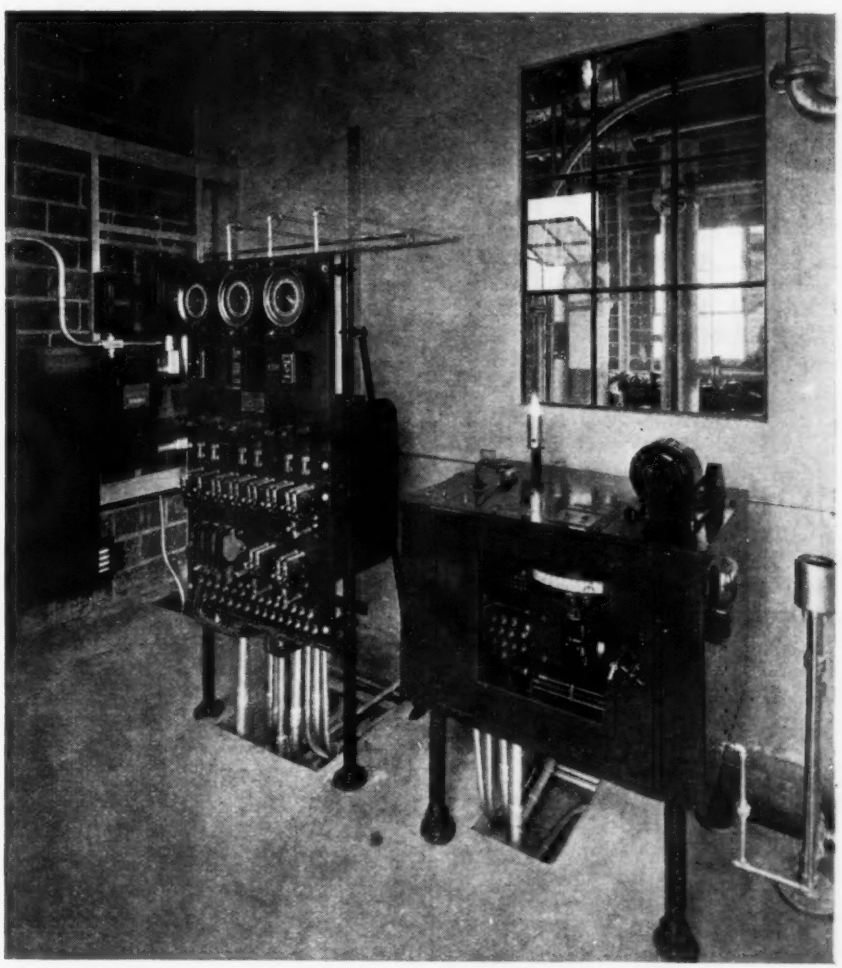
SAN FRANCISCO

WITHIN the past year subsidiaries of the Standard Oil Co. of California have installed 19 butane-air gas plants in towns on the Pacific Coast which were not supplied previously with natural gas. The plants make gas available to about 90,000 residents.

Liquid butane is manufactured at the Huntington Beach plant of the Standard Gasoline Co. and the Richmond refinery for shipment in special liquefied gas tank cars to the various plants. At each gas mixing plant enough storage space is available so that a two-weeks' supply may be kept in reserve at all times.

In preparation of gas liquid butane is withdrawn from storage and heated to its vaporizing point under a pressure of about 20 pounds per square inch. In the mixing plant pressure is stepped down through a series of regulators and air is admitted through a sealed-type air intake. The flow of vapor is controlled by a butterfly valve at about atmospheric pressure.

The mixture of air and gas is drawn into the compressor from which it passes to a surge tank for odorization and into gas storage tanks. When a pressure of 75 pounds per square inch is reached in the storage tank the plant automatically is stopped and no more gas is carbureted



Control apparatus at Vacaville, Calif., butane-air gas plant of the Natural Gas Corp. of Calif. Carbureting and compressing equipment is in the room seen through the window at the right rear

until the pressure drops to 60 pounds per square inch.

Control of the gas mixture is achieved through a calorimetric control set at 550 B.t.u., which operates the butterfly valve mentioned previously.

An accompanying photograph shows the interior of the gas-proof control room in one of the Standard plants. The operator may observe operation of the vaporizing and carbureting equipment in the next room through the window shown. He may not enter the other room, however, except from the outside.

The buildings at mixing plants are entirely fireproof and the compressor room is amply ventilated at the eaves line and sill line to prevent any possible gas accumulations.

The average plant being built by the Standard subsidiaries has a capacity of about 150,000 cubic feet of gas per day in towns with an initial demand of about 40,000 to 50,000 cubic feet per day.

Pacific Public Service Corp. which is controlled by the Standard of California has three active subsidiaries installing central butane-air gas plants and distributing systems. They are the Natural Gas corporations of California, Washington and Oregon.

Plants have been placed in operation at the following points: Vacaville, Suisun-Fairfield, Rio Vista, Isleton, Brawley, Calexico, Dunsmuir, Yreka and Arcata, Calif.; Klamath Falls, La Grande, Bend, Coquille and Cottage Grove, Ore.; Camas Shelton, Anacortes, Port Townsend and Port Angeles, Wash.

Complete displays of gas applicances and service departments have been installed at each of these 19 towns according to an article in the August issue of the Standard Oil Bulletin, which describes the operations of the plants.

LINCOLN, Neb.—R. H. Dangerfield, formerly division manager at Des Moines, Ia., for the Phillips Petroleum Co., has been placed in charge of the Nebraska division, succeeding Walter E. Steele, who died recently, according to the Weekly Nioma Service Bulletin of Nov. 7.

New Refining Patents

Refining Petroleum Distillates. U. S. P. 1 816 827, Aug. 4, 1931, application filed Jan. 20, 1926; divided and this application filed April 5, 1926; Roy Cross, assignor to Cross Development Corp.

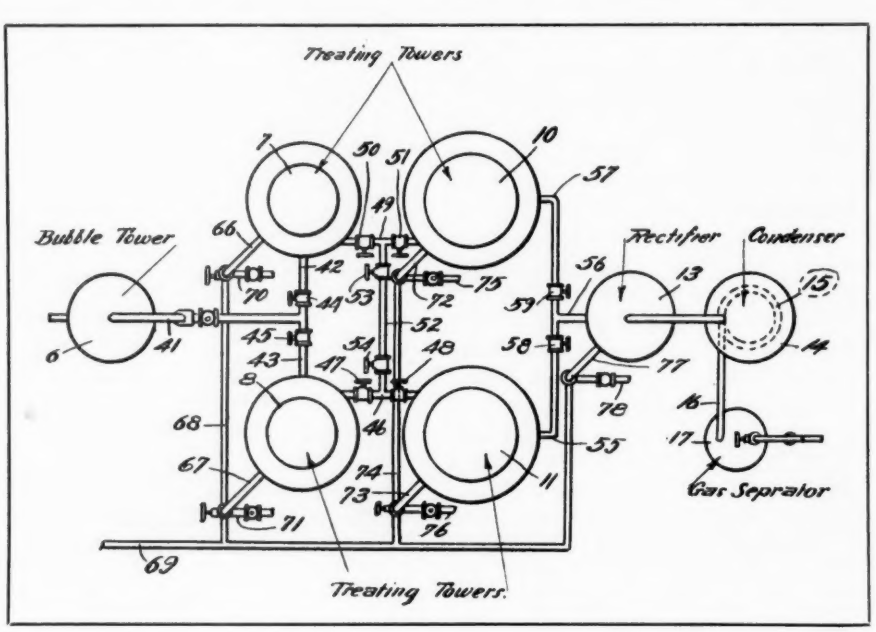
APPARATUS is here described and specified for a refining process which is disclosed in a divisional application. The novelty of the process and apparatus resides chiefly in the use of separate towers for vapor phase desulfurization, and in further refining by a secondary adsorption treatment. The towers are provided in pairs to permit continuous operation, one being in use while the other is cut out of the system. One tower of either type may be used in connection with either tower of the other type. The complete refining treatment comprises desulfurization, decolorization, and polymerization of gum-forming and like impurities.

The drawing shows a top view of an installation for this process. Vapors from a cracking still are passed through the bubble tower 6, from which the uncondensed gasoline fraction passes through pipe 41 and 42 or 43 to tower 7 or 8, in which there is contained a metal compound which is effective as a desulfurizing agent. Flow to these towers is controlled by valves 44 and 45. The vapor flows downward over the metal compound and is discharged through line 46 or 49, controlled by valves 47 and 48 or 50 and 51, to tower 10 or 11. These towers contain an adsorbent, such as active carbon, bentonite, fuller's earth or the like, and serve to remove gum-forming and discoloring impurities.

COPIES of United States Patents can be obtained at 10 cents each, payable to the Commissioner of Patents, Washington, D. C. Coupons, good until used, are sold in books of 100 at $10. Photostat copies of foreign patents (if not of too recent date) can be obtained from the Commissioner of Patents at prices (payable in coupons if desired) which will be quoted on application.

A cross line 52, with valves 53 and 54, permits connecting either tower of one pair to either tower of the other pair. Discharge from these towers is by pipes 55 or 57, leading by valves 58 and 59 to line 56 and thence to the bottom of the rectifier 13. From the rectifier the vapors go to the final condenser 14, and thence as liquid distillate to the gas separator 17.

The towers 7 and 8 have condensate draw-offs 66 and 67, leading through line 68 to return line 69; condensate can, however, be diverted through auxiliary lines 70 and 71 if desired. Similarly, towers 10 and 11 have condensate draw-offs 72 and 73, leading through line 74 to return line 69, with the diversion lines 75 and 76. From the rectifier line 77 leads to return line 69, but has the secondary line 78



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DOESN'T matter what you put the Goodyear Truck Balloon Tire up against — the rough, rocky, most-times-no-road going of the oil fields, or sustained fast rolling under tank loads on the highway — this tire does a great job.

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for diverting the condensate. The return line 69 leads back to the cracking system.

What is Claimed

In oil treating apparatus, a cracking unit with heating tubes and a reaction chamber, an evaporator and reflux towers connected to the chamber, a plurality of treating towers of which one is charged with a desulfurizing agent and another with an adsorbent, means to conduct gases and vapors from the reflux tower serially through the treating towers, a rectifier connected to the treating towers, and a condenser for the treated vapors.

* * *

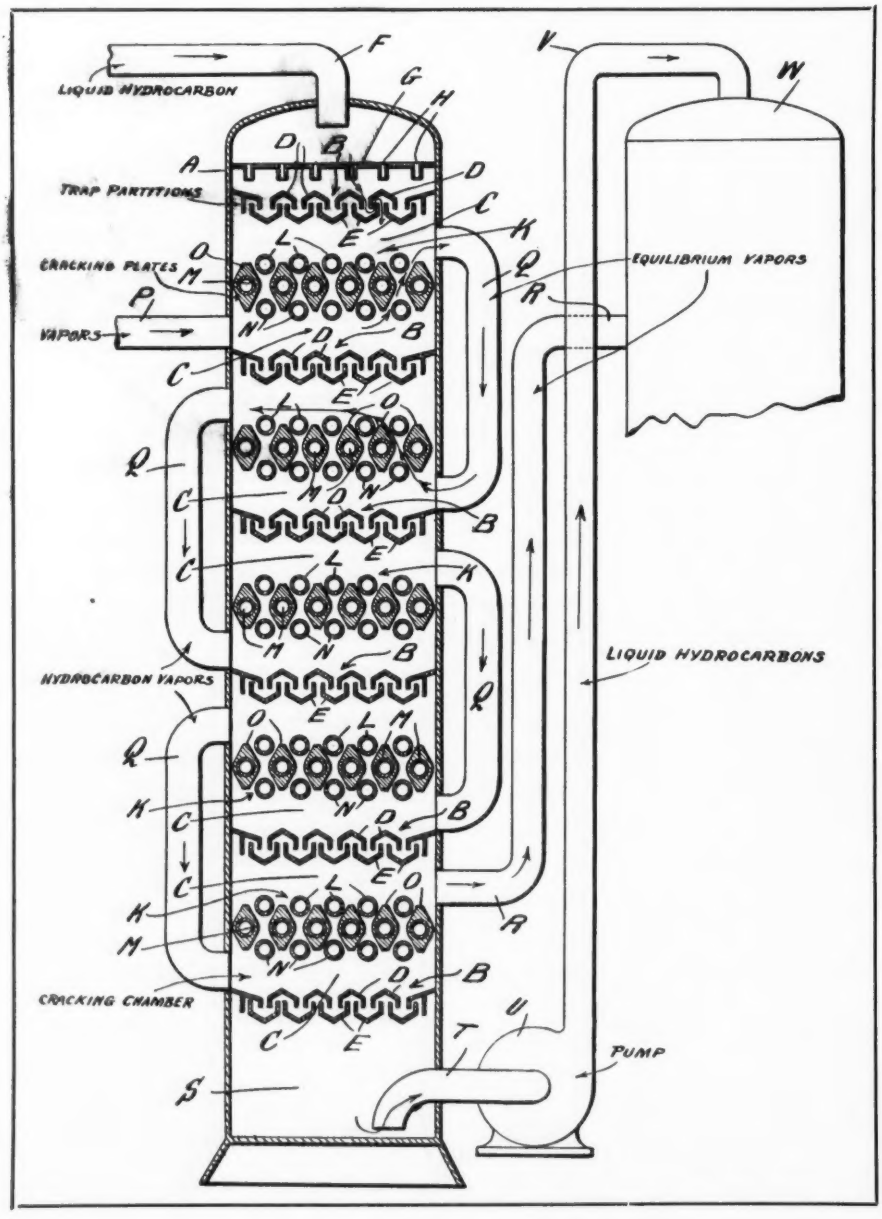
Equilibrium Cracking Process. U. S. P. 1 804 917, May 12, 1931, application filed Feb. 8, 1924; Wm. P. Deppe and Leland L. Summers.

CONTRARY to the usual custom, in cracking heavy oils, of withdrawing the cracked products as fast as formed, a new and improved cracking process is now based on the idea of cracking heavy oils, in the liquid phase, under equilibrium conditions with respect to the cracked or lighter hydrocarbons.

One of the major advantages of the new method is that the substitution reactions which occur in the equilibrium system cause the formation of a large proportion of branched chain hydrocarbons. Since these have lower boiling points than their straight chain isomers, the gasoline produced has greater volatility, for like content of hydrocarbons of a given number of carbon atoms, than ordinary gasolines.

Carbon deposition and coking are avoided by utilizing the thin film method of liquid phase cracking, and maintaining only short times of contact of the oil film with the hot surface, so that the oil is kept moving and such carbon as is formed is not allowed to accumulate on the heating surfaces. It is also noted that the amount of carbon formed is much less under equilibrium conditions than in ordinary cracking methods.

The drawing shows a form of apparatus which is suitable for the new cracking process. The cracking still A, is divided by the trap-like partitions B into retort chambers C. The trap partitions have caps D and oil receptacles E, alternating so that liquid can flow down but the vapors are retained. The oil to be cracked enters through pipe F, falls onto distributing plate G and through the openings H onto the first trap partition. Each retort chamber has a cracking plate K made up of layers of heating pipes L, M, N which should be vertically staggered; this arrangement provides for thin film distribution of the oil. Additional heating surface is provided by fins O on the heating pipes M. The cracking plates serve as equilibrium plates; and suitable light hydrocarbons are preferably introduced into the first retort chamber from an outside source, so that equilibrium is quickly estalished. Pipes Q extend from above the cracking plate of one retort chamber to below that of the next lower retort, chamber, to convey the vapors to the next retort chamber for passage through the next cracking plate.



What is Claimed

Cracking petroleum by passing it into a retort chamber at the top of a column, spreading it in thin films over highly heated plates, introducing hydrocarbon vapors into the chamber, integrating the vapors with the liquid hydrocarbons while maintaining them in approximate equilibrium, then passing the liquid hydrocarbons into a second retort chamber lower down in the column, repeating the operation.

* * *

Recovering Oil From Sludge. U. S. P. 1 826 276, Oct. 6, 1931, application filed Dec. 28, 1926; Harold C. Eddy, assignor to Petroleum Rectifying Co. of California.

WHEN the electrical discharge method is used for separating emulsions of oil and water, any sand or mud carried in the crude emulsion accumulates as an oil-containing sludge from which it is very difficult to recover the oil.

To prevent this loss, a system has been developed in which the sludge is treated by a secondary electric field in a secondary dehydrator. The sludge from this treatment contains water but not oil, and can be safely dumped in streams. Chemical aids, such as a lime soap or a sulfonated oil, may be used to facilitate the breaking of the emulsion.

What Is Claimed

Completely dehydrating emulsified oil and recovering all the oil, by treating the emulsion in a primary electric field, dividing it into clean oil and sludge, washing the sludge to separate residue emulsion and foreign matter, and treating the residue emulsion in a secondary electric field, different in potential gradient from the primary field, to separate the oil and water of the residue emulsion.

Water «Segregator» Eliminates Another Aviation Hazard

Removal of Water from Aviation Fuel By Simple Device Accomplished by Navy Experimenter

AN AIR Corps development which promises to prove of unusual value in the automatic elimination of water and dirt from gasoline is a "fuel segregator" adopted as a standard equipment for aircraft fueling trucks. It was developed at Wright field, Dayton. The inventor is David Samiran, of the mechanical department of the Air Corps.

The device is simple, direct in action, and of moderate size and weight.

General Characteristics

The Segregator Type A-1 is designed for gravity feed systems and comprises six principal elements, namely; chamber, deflector, float, valve assembly, valve guide, and sediment screen.

The float and valve are the only moving parts.

The Segregator Type B-1 is designed for use with an installation of three or more underground gasoline storage tanks. It is equipped with an automatic electrical cut-out switch.

The Segregator Type B-2 has no electrical cut-out switch and is for one or more outdoor storage tanks in connection with not more than two underground storage tanks.

Operation of the Device

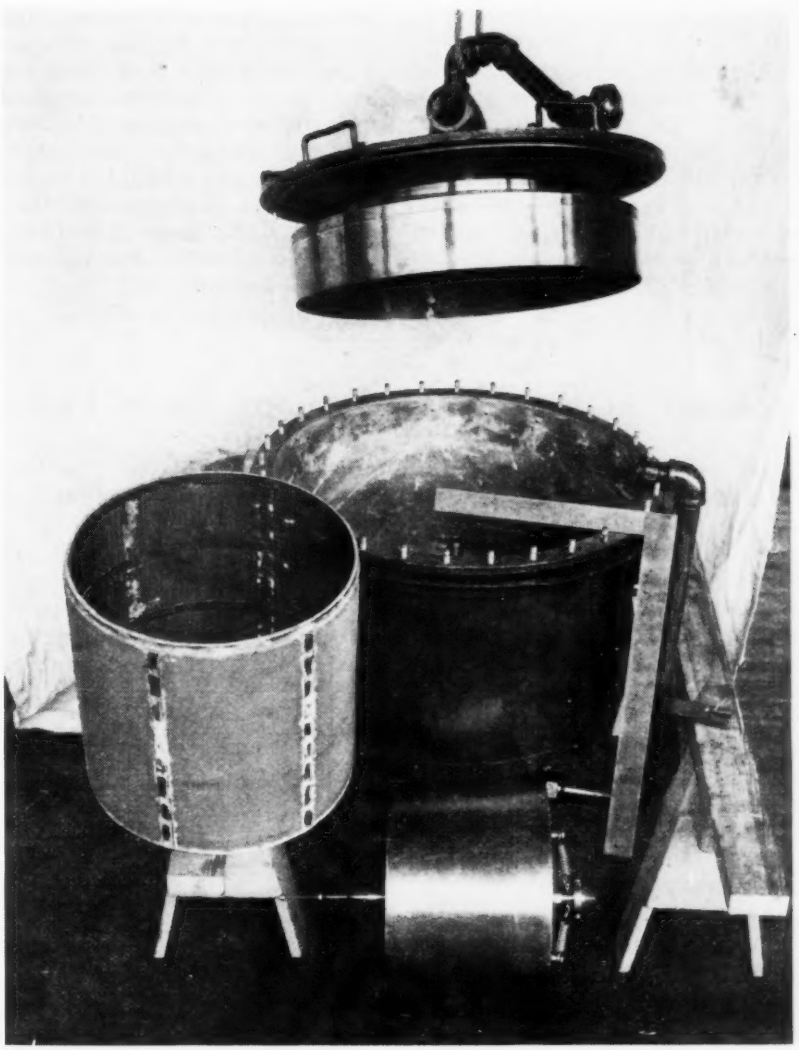
The operating principle takes advantage of the natural tendency of water and gasoline to separate, due to difference in specific gravity.

A float is fitted within the body of the segregator, the specific gravity of which is slightly greater than that of the fuel to be filtered. When some liquid, such as water, whose specific gravity is greater than that of the fuel, finds its way into the segregator, the float rises, opening a valve in the bottom of the chamber, thus releasing the undesired fluid. The fuel is drawn off through an opening at the top of the chamber and then passed through an efficient sediment screen. Incoming fluid is delivered at the bottom of the chamber with a minimum of turbulence.

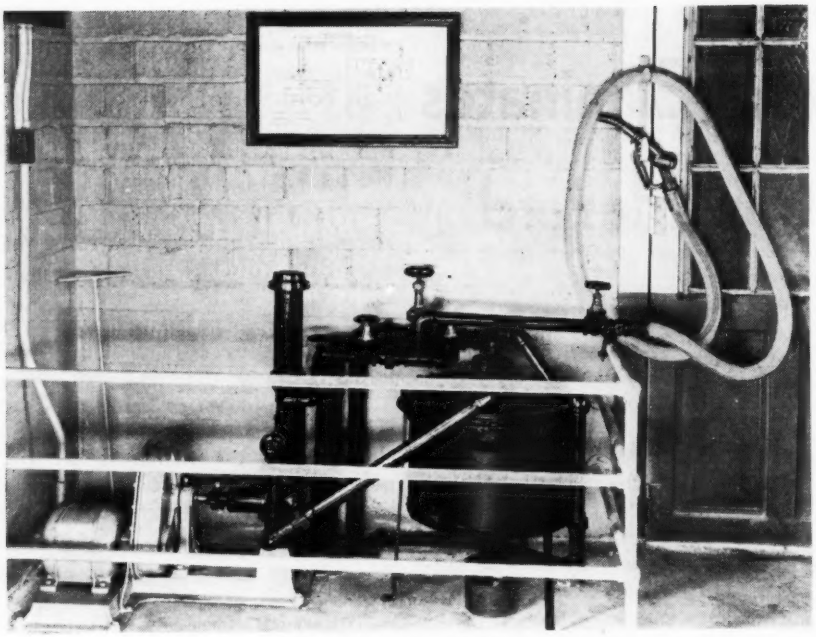
By suitable adjustment of the weight of the float, the device may be made so sensitive as to discriminate between hot and cold water, or between two grades of gasoline whose difference in specific gravity is as little as 0.01.

When it is realized that the former method of insuring pure gasoline for the airplane gasoline tank was the clumsy expedient of straining it through a chamois or felt cloth held in a funnel, a process both slow and tedious where large quantities were handled, the value of the improved method to both pilots and mechanics in the Service may easily be conceived.

So far models have been produced for installation on gasoline-delivery-tank trucks in refueling pit systems for airports, filling-station installations, storage systems and fuel systems of aircraft and motor boats. There has also been road-tested a



Component parts of "Segregator"



"Segregator" assembly installed

model suitable for installation on automobiles, with highly satisfactory results. There is no practical limitation to the size to which the segregator can be built.

There is a segregator which can be readily placed in the pocket. There seems every reason to believe that the segregator will be equally useful for the separation of water and sediment from fuel and lubricating oils of lighter grades. It is believed to have possibilities as a milk and cream separator.

David Samiran, the inventor, said: "It has been most gratifying to me to have my invention accepted by the Air Corps. The knowledge that I have been able to contribute in some measure to the problem of eliminating the hazards from aviation is a great reward in itself. I only hope that it may be accepted equally as favorably in the field of civil aviation and its related industries."

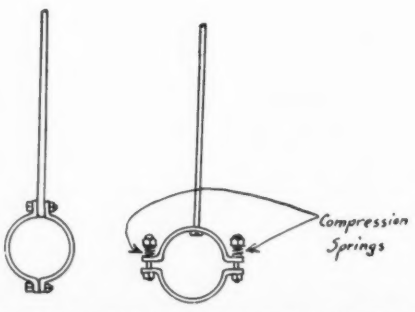
Change in Pipe Hangers Stops Steam Leaks

TROUBLE was experienced in a large eastern plant by leakage of steam through pipe joints which were held too rigidly in place. Some of the pipes were curved in the regular way but even then they were so stiff that they forced the joints open when expansion occurred due to steam in the pipes.

It was therefore deemed necessary to make some other provisions for expansion and it was done without purchasing any additional equipment aside from a few inexpensive compression springs, and some longer bolts.

The two methods of hanging are shown in the sketches herewith. The sketch at the left is the original hanger which was not designed to "give" as expansion and contraction occurred in the pipes. The tops of the hangers are fastened to I-beams.

The sketch at the right shows how the original straps were simply turned through 90 degrees, how the attachment with the vertical rod was made, and how the longer bolts and compression springs were arranged.



Original pipe hanger at left. At right is pipe hanger with compression springs added to permit slippage

As a result the leaks have all been stopped. Instead of the tops of the pipes being pushed upward, the bottoms of the pipes are now allowed to expand downward as temperatures increase. The small compression springs are then compressed, and gaps form between the straps as indicated.

Asphalt Institute Takes In Cal. Oil Companies

NEW YORK—In extending its activities to the Pacific Coast recently, The Asphalt Institute, trade organization of asphalt producers, announces these new oil company members:

Standard Oil Co. of California; Union Oil Co. of California; Shell Oil Co. of California; Associated Oil Co., San Francisco; Gilmore Oil Co., Los Angeles; Colonial Beacon Oil Co., Boston, and Indian Refining Co., Lawrenceville, Ill.

Oil companies already members of the institute are:

Standard Oil Co. of New Jersey; the Standard Oil of New York; The Texas Co.; Hastings Pavement Co., New York; Barber Asphalt Co., Philadelphia; Standard Oil Co. of Ohio; Standard Oil Co. of Louisiana; James B. Berry Sons Co., Chicago; and Shell Petroleum Corp., St. Louis.

The new membership makes the institute nationwide in scope and will enable it to carry on its work on standardization and simplification with the U. S. Bureau of Public Roads more expeditiously, and will also help in eliminating trade abuses. A branch office will be opened in San Francisco.

Officers of the institute are: W. H. Kershaw, The Texas Co., president; C. W. Bayliss, Barber Asphalt Co., and B. L. Boye, Standard Oil Co. of New York, vice presidents; J. S. Helm, Standard Oil Co. of New Jersey, chairman executive committee; A. M. Maxwell, Standard Oil Co. of Ohio, secretary; Herbert Spencer, Standard Oil Co. of New Jersey, treasurer; and J. E. Pennybacker, New York, managing director.

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Methods for Calculating Dimensions of Liquid Phase Cracking Equipment

By P. Riabih*

ALL cracking equipment is divided into two groups corresponding to the two main processes involved.

First: The heating group, where the petroleum product is heated to the temperature under which it is desired that cracking be conducted.

Second: The reactional group, where the product is kept in the apparatus for a period of time sufficient to allow the reaction to take place to the desired degree. The speed of reaction becomes a very important factor in designing both groups.

The experiments of Sakhanov have confirmed the theory that the speed of cracking process depends greatly on temperature[1]. He has found that the speed of the cracking process is doubled by a 10° rise in temperature. Following this rule, we can calculate the speed of cracking under any given temperature if we know the speed of the process under some one temperature. Based on this assumption is the following relation:

$$C = C_o 2^{\left(\frac{T-T_o}{10}\right)}$$

C_o — speed of the reaction under temperature T_o

C — speed of the reaction under temperature T

The Average Speed of Reaction

While being heated to the temperature at which complete cracking is expected to take place, the product passes a number of temperatures under which some cracking reaction occurs, although with a lesser speed; and the product, when it reaches the desired temperature is ordinarily partly cracked. On the other hand, after the temperature of the product is raised to T temperature, and passes into the reaction chamber, the temperature of the product usually (with the exception of the Winkler-Koch Process) drops, because the product gives up a certain amount of heat for the reaction itself, thus reducing the speed of reaction. This necessitates a proportional increase in the capacity of the equipment where the reaction takes place in order to handle a given throughput.

In view of these conditions, knowledge of the average speed of reaction within temperature limits T_1-T_2 becomes very important, and may be calculated without much difficulty. Suppose it has been found by some experimental method that at certain temperature T_o the speed of cracking is equivalent to C_o; it is required to find the average speed within the interval of the temperature T_1-T_2. Using the foregoing formula

$$C = C_o 2^{\left(\frac{T-T_o}{10}\right)} \qquad (1)$$

which we can represent as a curve shown in Fig. 1, we can determine the speed C_1 at temperature T_1 and, from it, determine all the remaining speeds using formula (1) written as follows:

$$C = C_1 2^{\left(\frac{T-T_1}{10}\right)} \qquad (2)$$

Referring to Fig. 1, the speed of reactions C_1 and C_2 correspond to the given temperatures T_1 and T_2. The average speed of the reaction within the temperatures T_1 to T_2 is the mean obtained by dividing the area, f, of the figure ABT_2T_1 by the temperature difference T_2-T_1. On a certain infinitesimal interval of temperature (dT) it is permissible to consider the speed of reaction as constant. The surface of the dark ruled area dT can be expressed as

$$cdT$$

and all the area of the figure ABT_1T_2, as an integral of this result taken within the limits of T_1 to T_2 or

$$f = \int_{T_2}^{T_1} c\,dT \qquad (3)$$

Now in place of C we may substitute its value from the formula (1)

$$f = \int_{T_2}^{T_1} C_1 2^{\left(\frac{T-T_1}{10}\right)}\,dT$$

and the integral takes the form

$$f = \int_{T_2}^{T_1} \frac{C_1}{\left(\sqrt[10]{2}\right)^{T_1}} \left(\sqrt[10]{2}\right)^{T} dT$$

Simplifying by separating out the constant,

$$f = \frac{C_1}{\left(\sqrt[10]{2}\right)^{T_1}} \int_{T_2}^{T_1} \left(\sqrt[10]{2}\right)^{T} dT \qquad (4)$$

the form of the integral will be as follows:

$$\int_{T_2}^{T_1} \left(\sqrt[10]{2}\right)^{T} dT = \frac{\left(\sqrt[10]{2}\right)^{T}}{\ln \sqrt[10]{2}} + C$$

$$= 14.5 \left(\sqrt[10]{2}\right)^{T} + C \qquad (5)$$

Substituting in formula (4) and taking the integral between the limits of T_1-T_2, we find that

$$f = 14.5\, C_1\, (1.074^{(T_2-T_1)} - 1) \qquad (6)$$

where quantity $\left(\sqrt[10]{2}\right)$ is equal to 1.074.

Dividing equation (6) by the difference of the temperatures T_2-T_1, we obtain the value of the average speed of reaction within the temperatures T_2-T_1

$$C_{cp} = \frac{14{,}5 C_1}{T_2 - T_1} (1.074^{(T_2-T_1)} - 1) \qquad (7)$$

If we determine the heating surface by methods which are

[1]Sakhanov, A. N., and Tilicheev, J. B., "Cracking in the Liquid Phase".

*Translation from Azerbaidzhanskoe Neftyanoe Khozyaistvo by George S. Birch.

commonly used for calculations of coil heaters, as in the installations for straight distillation, the calculated surface will not be sufficient to produce the desired cracking temperature T, because the product, held a certain period of time at high temperature, will absorb part of the heat to accomplish the reactions when partial cracking takes place. Because of this the calculated length of the coil L_1 will represent only a part of the length of coil which is necessary to obtain the required temperature to complete the cracking process. This can be seen from the diagram (Fig. 2), which shows that only by increasing the length of the coil by L_2 the desired temperature T will be attained. It is evident that the curve of heat increase will deviate from the direction "ac" to the direction "ad".

To calculate the additional length of coil L_2, assume the product to enter the heater at temperature T^0 (Fig. 2) and that the general cracking temperature is T, then within the interval of temperatures To-T we can obtain the average speed of reaction from formula (7):

$$C_{To-T}$$

The length of the coil calculated in the ordinary way is equivalent to L_1 but the length L_2 still has to be added, and the total length is equivalent to

$$L = L_1 + L_2 \text{ meters}$$

If the average velocity in the heating tubes is

$$V \text{ m/s}$$

then the time of passage through the coil will be equal to

$$t = \frac{L_1+L_2}{V} \text{ seconds}$$

By the speed of reaction we will understand percent of the total reaction which occurs per second. Therefore, the time required to complete the cracking process at a certain temperature T will be

$$\tau = 10°/C_T \qquad (8)$$

Although, according to Sakhanov[2], the speed of reaction decreases during the process of cracking, during the starting stage of the process, we may consider the speed of reaction as constant for any given temperature.

From this we can state

$$t/\tau = (L_1 + L_2)/v\tau = \alpha \qquad (9)$$

which gives the per cent of the cracking process accomplished within the temperatures T_o-T while it was passing through coils of the length L.

We know also that for the complete cracking of 1 kg. of the original product the following amount of heat is required: q_a calories to heat it from T_o to T and

q_b calories for decomposition.

For decomposition of α portion of the product there will be required αq_b calories. The amount of heat spent on the first and the second can be considered as proportional to the lengths L_1 and L_2 of the heating coil, because it is permissible to consider all the other conditions of the heat transfer as unchanged. Therefore

$$\alpha q_b/q_a = L_2/L_1$$

and from this

$$\alpha = L_2\, qa/L_1\, q_b \qquad (10)$$

and from (9) and (10)

$$(L_1 + L_2)/v\tau = L_2\, q_a/L_1\, q_b$$

from which the additional length of the coil is equal to

$$L_2 = L^2_1\, q_b/(q_a\, v_\tau - L_1 q_b) \quad (11)$$

In this formula the quantities should be shown

L_1 and L_2 — in meters
q_a and q_b — in calories
V — in meters per second
τ — in seconds

At temperatures lower than 450 C. (842F.) the quantity L_2 will be small and will not exceed 2 per cent, so that it may be neglected, but at higher temperatures L_2 becomes a significant quantity as, for instance, at 480C. (896F.), it may be as high as 25 per cent of L^3.

Reaction Chambers

The heating input necessary for the cracking reaction can be accomplished in two ways:

1. Adiabatically, or by obtaining the necessary heat of re-

[2]Sakhanov and Tillichev, loc. cit.

[3]Obriadchikov, "Process of Heating in Coils During the Cracking Process", A. N. K. 1929. No. 3.

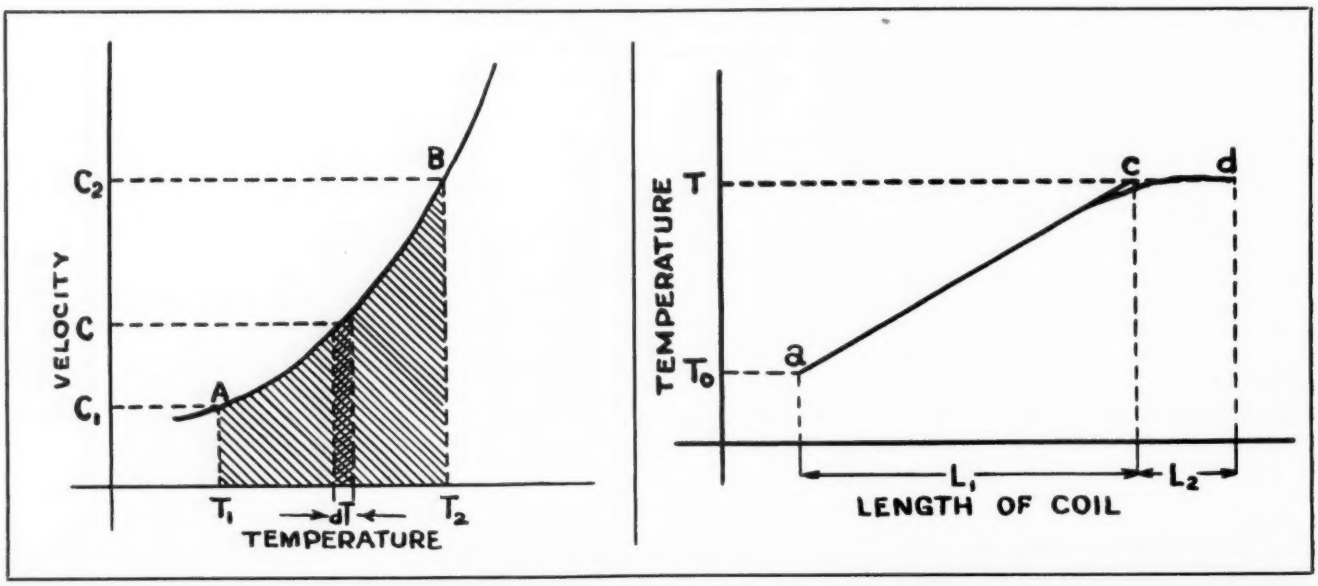
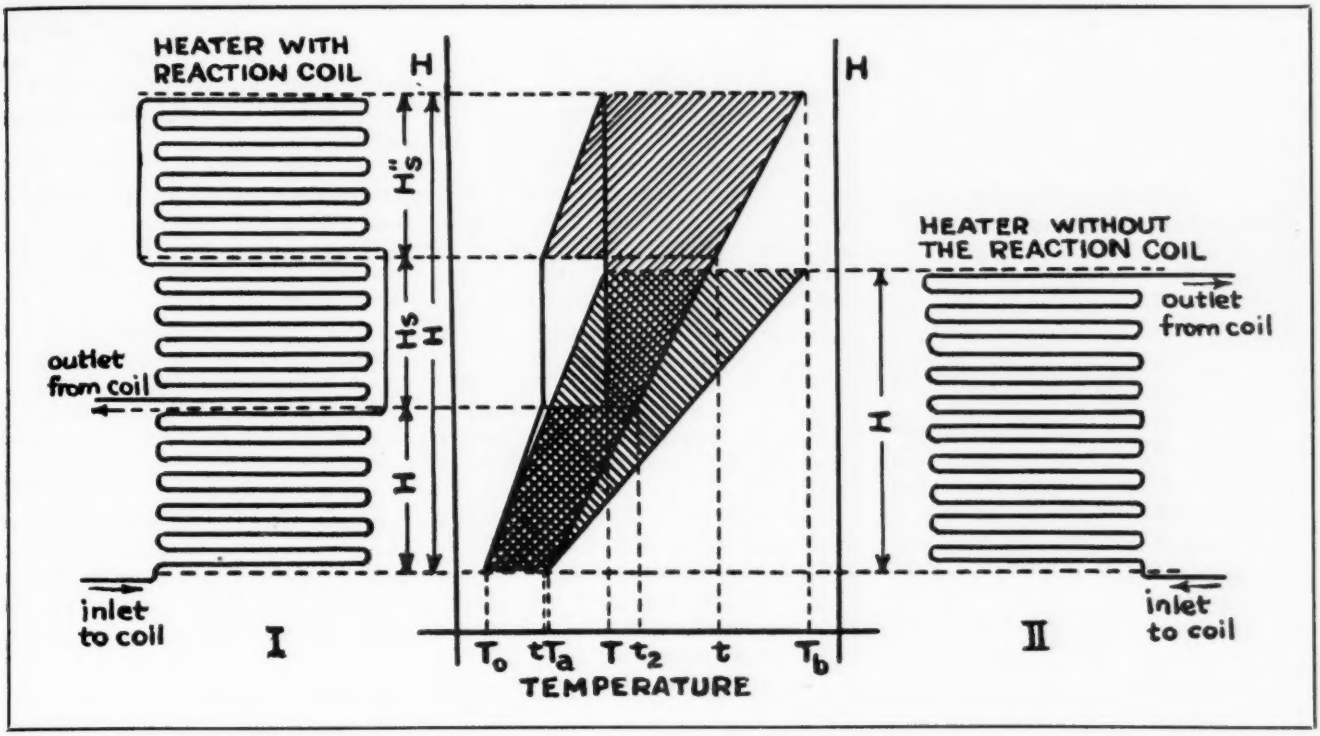


Fig. 1—Diagrammatic representation of the variables in calculating the speed of the cracking reaction

Fig. 2—Diagram showing the increase in length of heating coil necessary to use to obtain desired temperature



action from the liquid itself, in which case the temperature of the product must drop in proportion to the advance of the process.

2. Isothermally, or by supplying the heat of reaction from outside. In this case the temperature of the product remains constant.

The majority of the practical cracking processes use the first method (Dubbs, Cross, Vickers, etc.), in which a separate reaction chamber, located on the outside, is used. Winkler-Koch plants are designed isothermally and may be considered as the most advanced among those used in the liquid phase cracking process. It is not difficult to see that the isothermal method has many advantages, the most important of which are:

1. Due to the fact that the temperature is permanently maintained at the required point, the speed of reaction does not drop, and smaller reactional equipment is necessary.

2. The waste of heat into the atmosphere is decreased.

3. There is no increase in fuel consumption because the excess heat in the product can be transferred, and due to the increased temperature of the product, the work of heat exchangers is more efficient.

4. Formation of coke in the reaction equipment decreases, due to higher velocities through the tubes, and the absence of low velocity reaction chambers.

This substitution of tubes for the chamber was first proposed by Sakhanov, and this was proposed to decrease coke deposits. In his system 6-inch pipes were used for the reaction bank. Later he recommended heating the pipes by residue gases to maintain the temperature, but this method caused a considerable loss of heat in the residue gases due to the location of the reaction tubes behind the heaters. As an example, if the cracking temperature is equal to 450°C. (842F.) then we must release the combustion gases at a temperature of at least 550C. (1022F.)

To avoid this disadvantage, some time ago I proposed a method by which the reaction coil is to be located between two sections of the heating tubes, in such a position that it would become possible to communicate the required quantity of heat needed for reaction through the surface of the coil, without raising the temperature of the product itself, and at the same time obtain the isothermal process and the escape of residue gases at a low temperature. This principle is used in Winkler-Koch installations, illustrated in the diagram (Fig. 3). On the left, in Section I of this diagram can be seen the relative locations of the coils; the reactional, shown as H_2, and the heating, shown as H'_s and H''_s. At the right, Section II is shown a heating coil of the usual type in which the reaction tubes are absent. Between these two arrangements is a diagram showing the change of temperature of combustion gases, and of the liquid in the coil. It is assumed in this diagram that heating of both coils takes place under known conditions, and for both cases we have a constant temperature of combustion gases going into T_b and leaving T_a, and constant temperatures of the product going into T_o and leaving T.

To simplify the diagram temperature gradient is indicated by straight lines, although more accurate plotting would show them as curves. The influence of velocity variation and of the variation in the coefficient of heat transfer are neglected.

Calculations of Adiabatic Reaction Equipment

We have calculated above that on reaching the required cracking temperature T in the heating coil, part of the product will be cracked which is equal to

$$x = \frac{t}{T}$$

where t — is the duration of

time of passage of the product through the heating coil and τ is the time required to completely crack the product within the temperatures T_o (the temperature at which the product enters the heater) to T (the temperature at which it leaves the coil).

Therefore, the following product is left uncracked:

$$1 - \alpha kg.$$

To crack this remaining quantity of the product it is necessary to have the following amount of heat:

$$q_b (1 - \alpha) \text{ calories} \quad (12)$$

where qb — is the quantity of heat required for decomposing 1 kg. of the original crude.

Besides 1 kg. of the original crude, a certain amount of the recycle stock, β, enters the reaction chamber. In the reaction chamber the temperature of the product falls from its initial temperature T to the temperature at which it leaves the chamber which is T_2, losing heat as follows:

$$(1 + \beta) (T - T_2)C \text{ calories} \quad (13)$$

where C—is the average heat absorption of the product within the temperatures $T\text{-}T_2$, and is used for decomposition and radiation loss which latter may be represented by q_k.

Then we have the following equation:

$$(1 + \beta) (T - T_2) C = q_b (1 - \alpha) + q_k \quad (14)$$

from which

$$T - T_2 = (q_b [1 - \alpha] + q_k)/(1 + \beta)C \quad (15)$$

With this formula we can calculate the drop of temperature in the reaction chamber, and with formula (7) we can calculate the average speed of reaction within temperatures $T\text{-}T_2$, which we will represent by $C_T\text{-}T_2$.

Since the partial cracking in the heating coil is equivalent to α, the time required for the completion of reaction in the reaction chamber will be equal to

$$\tau = 100 (1 - \alpha)/C_{T\text{-}T_2}$$

If the charging stock is Q tons per second and the recycle stock β per cent of the charging stock, the total volume entering the reaction chamber is

$$\frac{(1 + \beta)Q}{\gamma}$$

cu. meters of the mixture where γ is the density of the mixture.

Therefore the working capacity of the chamber will be equal to

$$V = 100Q (1 + \beta) (1 - \alpha)/\gamma C_{T\text{-}T_2} \text{ cubic meters} \quad (16)$$

This volume will insure the continuation of cracking up to the desired point. Computing the diameter of the chamber from this formula, the height can be determined. In selecting the diameter of the chamber we must consider whether deposition of coke is desired. If it is, we would have to use a chamber of large diameter (Dubbs), and if no coke deposition is expected, a small diameter (Cross, Vickers, etc.) is satisfactory.

For efficient operation it is necessary to prevent the loss of heat into surrounding atmosphere, and to see that when the product leaves the chamber the reaction is stopped, which prevents continuation of the coke formation process. In Winkler-Koch equipment this is accomplished by the product entering a cooler on leaving the reaction tubes.

Calculation of Isothermal Reactional Equipment

For the calculation of reaction chamber volume in the isothermal process we use the same formula (16), but instead of the average speed of reaction $C_t\text{-}t_2$ it is necessary to use the reaction speed equal to C_t because the cracking temperature remains constant. Therefore we use

$$V = 100 Q (1 + \beta) (1 - \alpha)/\gamma C_T \quad (17)$$

Isothermal reactional equipment consists of a reaction coil of the same diameter as the tubes of the heating coil from which the length of coil and its heating surface becomes well defined. The problem then is to transmit a given amount of heat through a given heating surface.

If the amount of heat Q needed for reaction is known (taking into account the partial cracking which takes place in the heating coil) and if the heating surface of the reaction coil H_2 is known, and also the coefficient of the heat-transfer K, we can find the mid-temperature difference δ_m which is equal to

$$\delta_m = Q/KH_2 \quad (18)$$

The amount of heat Q which the product acquires while in the coils must be taken from the combustion gases, which, during this process, change their temperatures from t_1 to t_2. Therefore, the heat given up by the gases is

$$Q = Gc (t_1 - t_2) \quad (19)$$

where G is weight of combustion gases per hour.

C is average specific heat for the combustion gases for the interval $t_1\text{-}t_2$.

In view of the fact that the temperature of the products in pipes is constant and is equal T, it therefore becomes a function of only temperature t_1 and t_2, or

$$f(t_1\ t_2) = Q/KH_2 \quad (20)$$

While solving the equations (19) and (20) in relation to t_1 and t_2, we may have two cases:

1). δ_m can be taken as an arithmetical mean:

$$\delta_m = \frac{t_1 - t_2}{2} - T$$

In this case the roots of the equation will be

$$t_1 = T + \delta_m + Q/2Gc;\ t_2 = T + \delta_m - Q/2Gc \quad (21)$$

2). δ_m may be taken as a logarithmic mean:

$$\delta_m = (t_1 - t_2)/([\ln t_1 - T]/[t_2 - T])$$

in which case the solution of this equation will be somewhat more complicated, and the roots will appear as

$$t_1 = [T + Q\varepsilon]/[Gc(\varepsilon - 1)];\ t_2 = [T + Q]/[Gc(\varepsilon - 1)] \quad (22)$$

in which

$$Q/Gc\delta_m \text{ and } \varepsilon = e$$

where e is the base of the natural logarithm.

Knowing the temperature of combustion gases T_a in the furnace and at the exit to the stack T_e, we can find the heating surface of different parts of coil H'_s H''_s located in front of and behind the reaction coil, from which it is possible to find the temperature in the heating coil t, at which it is necessary to break the heating coil into two sections and install between them the reaction coil.

We will give a concrete example showing the use of the derived formula in practice. It is required to find the general dimensions of an installation for 360 tons per day liquid phase cracking of Grozny paraffin crude.

The consumption of crude per hour

$$360 : 74 = 15t = 15{,}000 \text{ kg.}$$

"With very few exceptions every refinery organization operating plants east of California faces 1932 with the problem of raising the octane number of its gasoline" — *Oil and Gas Journal,* October 22, 1931

Higher octane number means better anti-knock value

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The consumption of crude per second

$15{,}000 : 3600 = 4.2$ kg.

Recycle stock will be equal to 40 per cent, therefore, consumption per second of the mixture will be

$1.4 \cdot 4.2 = 5.88$ kg.

The product comes into the furnace at 150°C., (302 F.), while general temperature of cracking is taken at 480°C., (896 F.).

The amount of heat for heating 1kg. of crude plus 0.4 kg. of recycle stock, at an average heat absorption of 0.65

$qa = 0.65(1 + 0.4)\ (480 - 150) \backsimeq 300$ calories

To crack the crude for the production of 40 per cent of benzine requires a consumption of heat of 500 calories for each kilogram of benzine produced.

$q^b = 0.4 \cdot 500 = 200$ calories

Per hour consumption of heat for heating

$300 \times 15{,}000 = 4{,}500{,}000$ calories

Assume that the heating coil consists of 30 per cent of radiation surface and 70 per cent of convection surface. The transfer of heat per hour in 1 m² (10.75 sq. ft.), for radiation surface we may consider as 25,000 cal., and for convection as 10,000 cal.

The necessary heating surface will be

$4{,}500{,}000/(0.3 \cdot 25{,}000 + 0.7 \cdot 10{,}000) \backsimeq 310$ sq. meters. (3332 sq. ft. approx.)

The heating coil consists of pipes of internal diameter of 100 mm = 0.1 m. Therefore, the length of the coil will be

$L_1 = 310/3.14 \cdot 0.1 \backsimeq 1000$ meters, (3280) ft.)

From the findings of Professor Sakhanov[4], to crack a paraffin base crude at 425°C. (797 F.) with one passage through the coils, 94 minutes is required (which is equivalent to 5640 seconds.)

From formula (8) the speed of reaction at 425°C. (797 F.) will be

$C_{425} = 100/5640 = 0.0177$ per cent per second

From formula (2) the speed of the reaction at 150°C. (302 F.) will be

$C_{150} = 0.0177/(2[425 - 150]/10) = 0.0177 \cdot 2^{-27.5}$ per cent per second

[4]Sakhanov and Tilicheev, Loc. cit., p. 110.

The average speed of reaction within the temperatures 150-480°C., (302-896 F.) using formula (7) will be

$C_{150\text{-}480} = (14.5 \cdot 0.0177 \cdot 2^{-27.5}/(480 - 150)(1.074^{480-150} - 1) = 0.028$ per cent per second.

The time of complete cracking within 150-480°C., (302-896 F.), will be

$\dot{\tau} = 100/0.028 = 3570$ seconds

The velocity at the entrance of the coil is equal to approx. 1 m. (39.37 inches) per second. Taking into consideration partial gas formation, the velocity of the product at the exit from the coil should be taken as not less than 5 feet per second, and the average speed throughout the entire coil is 1.25 m. (approximately 4 feet) per second. Then the time required for passage of the product through the coil is

$t = 1000/1.25 = 800$ seconds

Partial cracking during heating is

$\alpha = 800/3570 \backsimeq 0.224 = 22.4$ per cent.

The additional length of the heating tubes, according to formula (11) is

$L_2 = 1000 \cdot 1000.200/(300 \cdot 1.25 \cdot 3570) - (1000 \cdot 200) = 17.5$m) (62.2 ft.)

The complete length of the heater is

$L = 1000 + 175 = 1175$ meters (3850 feet approx.)

For calculation of a separate reaction chamber the fall of temperature, according to formula (15) will be

$T - T_2 = (200[1 - 0.224] + 25)/0.8(1 + 0.4) \backsimeq 160°$ C.

where 25 signifies the loss of heat by radiation for 1 kg. of crude, while the specific heat of the product in the chamber will be 0.8[5].

The temperature of the product leaving the chamber should be

$480 - 160 = 320$ C.(608F.).

The speed of reaction at temperature 320°C., (608 F.) according to formula (2)

$C_{320} = 0.0177/(2[425 - 320]/10) = 0.0177 \cdot 2^{-10.5}$ per cent per second

The speed of reaction within temperature 320-480 C., (608-896 F.), according to formula (7) is

$C_{320\text{-}480} = (14.50 \cdot 0.0177 \cdot 2^{-10.5}/(480 - 320)(1.074^{480-320} - 1) = 0.0726$ per cent per second.

The density of the mixture in the chamber is 0.5 (because considerable gas formation takes place), and its volume per second is

$0.001 \cdot 6/0.5 = 0.012$ m.³(0.424 cu. ft.) per second.

The working volume of the reaction chamber according to formula (16) will be

$V = 0.012(1 - 0.224) \cdot 100/0.0726 = 12.8$m.³(452 cu. ft.)

Taking the internal diameter of the chamber as 1 m (39.37 inches), we obtain the cross-sectional area of the chamber inside as 0.7854 m.² (8.45 sq. ft.) and the working height of the chamber is α.

Footnotes

(5) On Vickers and Cross installations the fall of temperature in reaction chambers is considerably smaller, usually 15, 25 or 30°C. However, there is no disagreement between this fact and the temperature found by us, which equals 160°C. This is because the latter temperature is arrived at from our calculations which are based on somewhat different conditions than those, for instance, which exist in Vickers installations. For the calculation of the temperature drop the following formula is used:

$$\Delta T = [q_b (1 - \alpha) + qk]/C(1 + \beta)$$

Where q_b is the heat of decomposition for 1 kg. of the original stock. This heat is assumed to be 500 cal. per kg. of benzine produced. Besides, it is assumed that the total production of benzine is equal to 40 per cent, while in the Vickers process according to the paper by U. E. Bogoslovsky at the session of N. T. S. of the Oil Industry in Baku (See Vol. 1 of the session proceedings) the production of benzine is approx. 30 per cent, if the amount of crude is taken as 100 per cent. Therefore, in this case we have:

$$q_p = 0.3 \cdot 500 = 150 \text{ calories}$$

α, or the partial cracking that takes place in the heater, is equal to 22.4 per cent. As a matter of fact in Vickers installations 80-90 per cent of benzine is formed in the furnace (see the article by Obriadchikov in No. 9 of "A.N.K." for 1929). Therefore the partial cracking must be considered as:

$$\alpha = 0.8$$

qk—the loss of heat into surrounding atmosphere is assumed to be 25 cal. to 1 kg. of residue crude, as a safe, though possibly excessive, estimate. β is the quantity of recycle stock and is considered to be equal to 40 per cent, but it is actually much larger. If we are to base our conclusions on the figures in Bogoslovsky's report, as well as on those found in the article by Obriadchikov, recycling may be as high as 100 per cent.

Therefore $\beta = 1$.

C—is the heat absorption of the product which is equal to 0.8. Substituting these quantities into formula, we will find that the temperature drop in reaction chamber is approximately equal to that which is found in the Vickers process.

$$\Delta T\ [150\ (1-0.8) + 25]/0.8(1+1) = \backsimeq 34.5°C.$$

The above calculations indicate that the service of the reaction chamber as a means of producing reaction, as in Vickers installations, is insignificant. It serves principally to increase the loss of heat. The large production of benzine is due to the absence of radiant tubes in the furnace which increases the time spent by the product in the furnace and, therefore, increases production of benzine.

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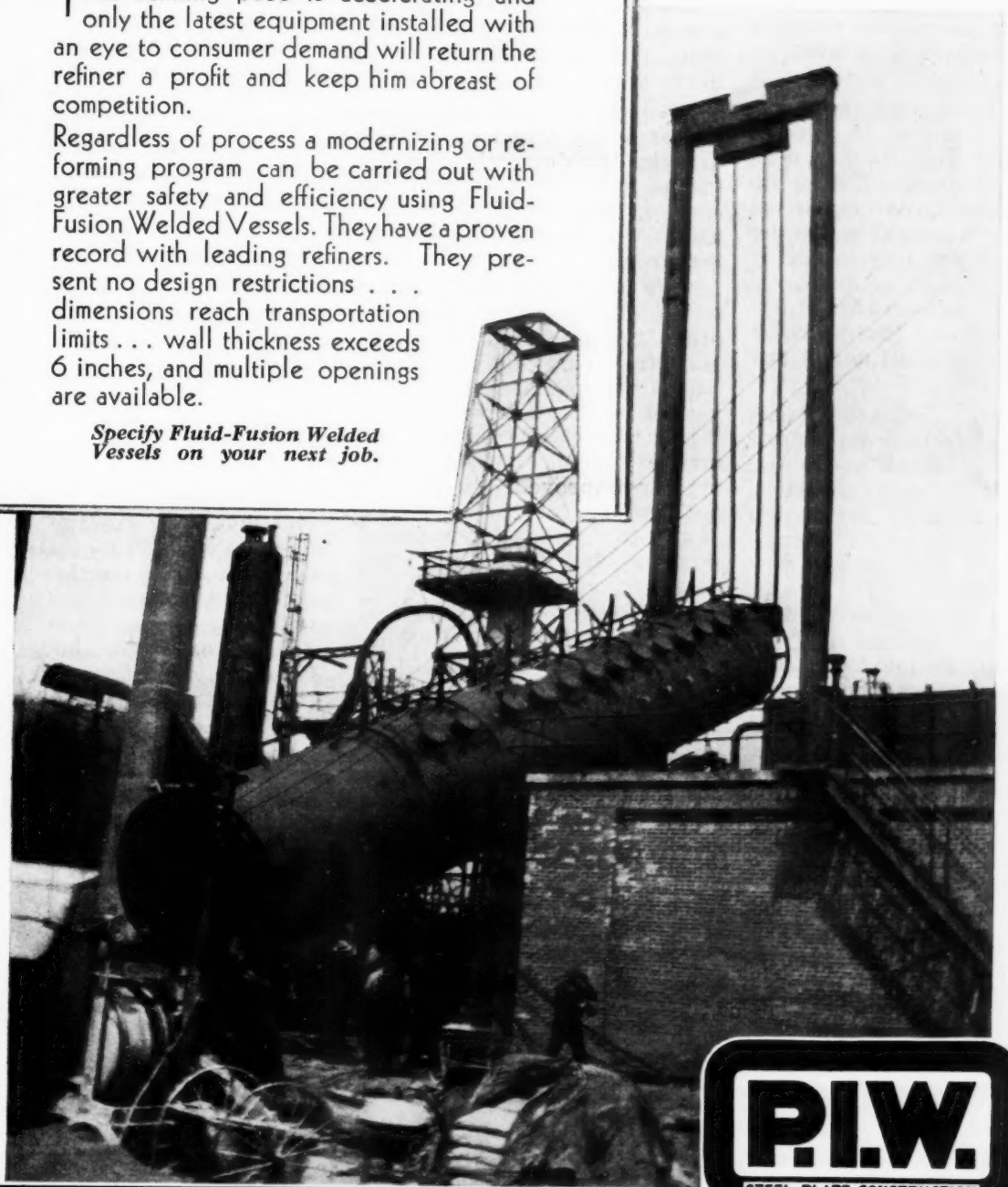

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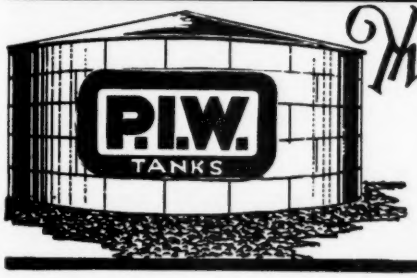


The PETROLEUM IRON WORKS COMPANY
SHARON, PA.
NEW YORK TULSA

Cooling Buildings by Natural Gas To Stabilize Line Loads

CONFIDENCE in widening markets for natural gas was expressed by various speakers at the recent meeting of the American Gas Association at Atlantic City this fall.

In connection with the study by this association of natural gas reserves and its planning for enlarged markets, men familiar with the problems of the oil industry were asking themselves if the gas interests may not become an active factor in oil and gas conservation programs, to the end that wastage of natural gas in oil fields may be avoided.

Prohibiting the waste of gas in oil fields, as is provided for in statutes of the oil producing states, and as is made the basis for enforcement of regulation of oil production in California, automatically reduces the output of petroleum from wells. Absolute prevention of production of natural gas in new oil fields, except as markets were provided for the gas produced along with the oil, would limit very greatly the output of oil from those fields.

Discussing new markets, Judge H. O. Caster, New York, general counsel, Henry L. Doherty & Co., said:

"We are already at the dawning of a day when gas will be used by the domestic consumer in the summer time for house cooling, and when it will be used for building cooling in the larger cities.

"We may confidently expect to see the store, the bank, the office building, and even the manufacturing plants cooled by gas in the summer, as well as heated by it in the winter time. When that time comes the domestic gas load factor will be greatly improved and it might be possible for the gas companies to reduce their rates and thereby increase their markets."

A committee of the gas association on Industrial Research has been conducting tests this past summer in home cooling and summer air conditioning. Two test installations have been in steady operation, successfully for some months, it is said.

Judge Caster is authority for the figures given the gas association in convention that there is $2,000,000,000 invested in the natural gas industry in this country, that there are 55,000 gas wells, 72,000 miles of main and gathering lines serving an area with a population of 22,000,000.

He said there were 20 per cent more customers in 1930 than in 1928 and that the investment in natural gas properties has almost doubled in the past five years.

Judge Caster estimated gas reserves of principal fields in this country, with a total reserve of 30,000,000,000,000 cubic feet. His figures on some of these fields are:

Panhandle (Texas) open flow, 12,254,000,000 feet; reserve gas 10,312,000,000,000 feet; gas produced to date, 1,000,000,000,000 feet; wastage, 500,000,000 feet.

California, open flow 1,100,000,000 feet; reserve gas, 7,000,000,000,000 feet. Of this reserve the new Kettleman Hills field contributes 5,000,000,000,000 feet.

Hugoton (Oklahoma and Kansas), open flow 800,000,000 feet; reserve gas 6,000,000,000,000 feet.

Monroe, (Louisiana), open flow, 4,435,000,000 feet; reserve gas, 2,712,000,000,000 feet, gas produced to date, 1,400,000,000,000 feet.

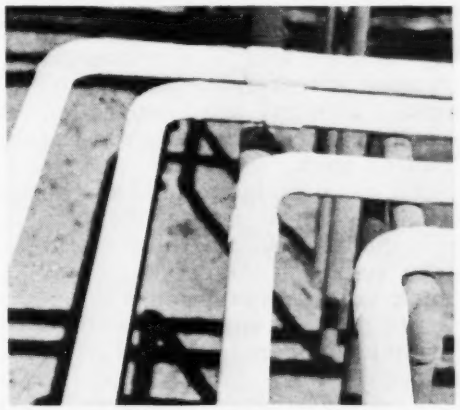
Southeastern New Mexico gas area, open flow 367,000,000 feet; reserve gas 1,521,000,000,000 feet.

Morse Dell Plain, president of the Northern Indiana Public Service Co., of Hammond, Ind., referred at the Natural Gas Association meeting to the marketing of liquefied gases by the petroleum industry.

"The marketing by the petroleum industry of some of its liquefied gases has brought into the industrial field a competition which may prove serious," he said. "It may very well be that our technical departments may find it desirable to develop a system whereby we, in the gas business, can make use of or distribute these liquefied gases as part of our regular service."

Nashville, Tenn.—When Lew Collins, secretary of the Tennessee Oil Men's Association, and Frank Kendall of the Pennsylvania Oil Co., Memphis, go fishing, they fish. The pictures herewith attests to this. The fish weighing 238 and 348 pounds, left to right, were caught off Cape Canaveral, Florida, when the two were vacationing with their families. Picture shows, also left to right, the hoist needed to lift the catch, Lew Collins, Mrs. Collins, the two fish, Mrs. Kendall and Mr. Kendall; the children are Virginia Collins and Paul Kendall

Welded Bends in Bulk Plant Lines Reduce Friction



Bends welded into gasoline lines at bulk depot of Independent Gas & Oil Co. at Salt Lake City. Sleeves are the only threaded connections used in the plant's pipe system

SALT LAKE CITY

WELDED 90-degree bends, instead of ells, are used in all oil lines at the bulk plant of the Independent Gas & Oil Co. in Salt Lake City. This company is the marketing subsidiary in inter-mountain territory of the Producers & Refiners Corp., which is controlled by the Prairie Oil & Gas Co.

The bends welded into the lines are used to reduce friction and prevent leakage at turns. Cost of welding the lines is no more than the cost of threading the pipe in the usual type of bulk station installation, said Frank Kane, superintendent of operations.

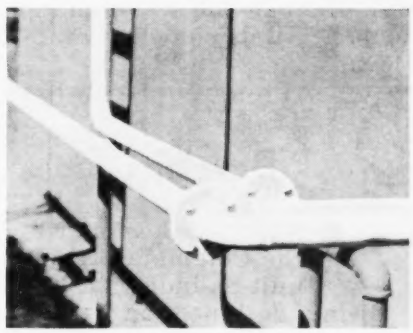
The company has not eliminated threaded pipe entirely, as it links sections of pipe together with threaded sleeves. But there is little frictional losses in the sleeves where the flow of oil is straight. A churning action is set up in ells, Mr. Kane pointed out, which retards the flow of the liquid.

Flange type unions are also used instead of the conventional screw type union. The flanged unions are also welded to the line. A gasket is placed between the flanges, which are drawn together with four bolts.

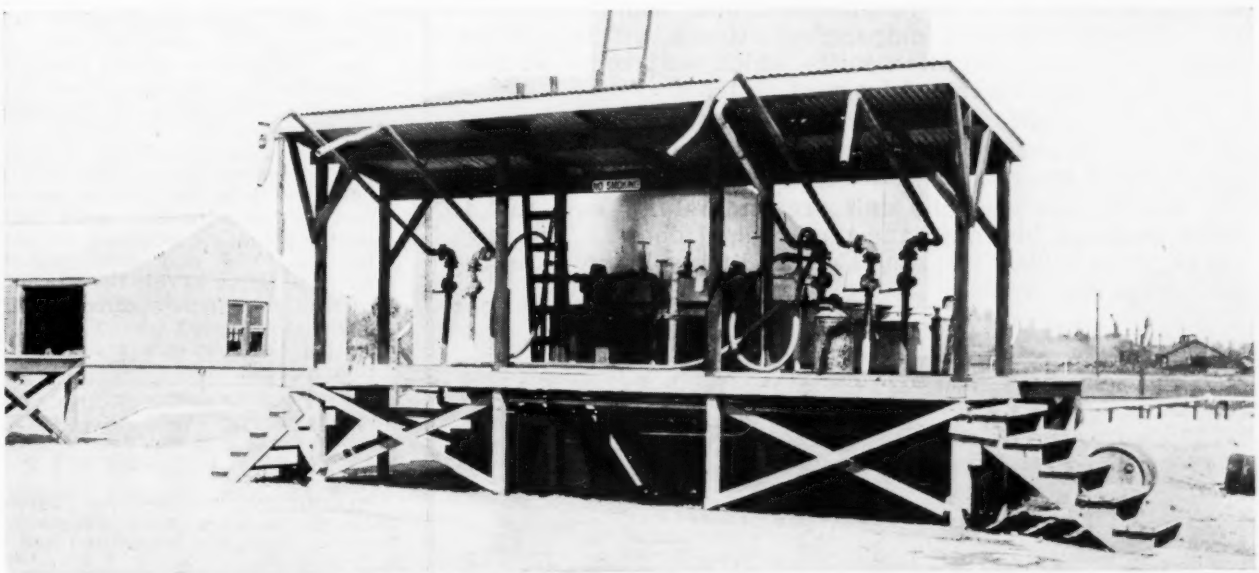
The company is using 2½-inch lines throughout its plant. Field types storage tanks are used for regular gasoline and horizontal tanks for Ethyl gasoline and kerosine.

There is a vertical tank for regular gasoline at the loading rack so trucks may be filled by gravity.

There also is an arrangement by which gasoline may be pumped direct from the main



Flanged unions and bends instead of ells in gasoline lines at the bulk depot of Independent Gas & Oil Co. at Salt Lake City. By unscrewing four bolts in each flanged union, a large section of the system may be quickly removed



Loading rack at Independent Gas & Oil Co. plant at Salt Lake City. Two meters are used to measure all gasoline delivered to trucks. The loading lines are 2½-inch and tipped with a section of flexible metal hose long enough to reach the bottom of truck tanks. Gasoline may be loaded from the vertical tank just back of the rack or pumped from larger storage by pressing the button of a vaporproof switch on one of the posts

storage tanks through the loading lines. Ethyl gasoline is pumped direct from main storage. Pumps are controlled from a vapor-proof switch at the loading rack.

All gasoline is metered to the trucks. Lines to trucks are equipped with flexible metal hose to reach the bottom of truck tank compartments in order to prevent splashing and to minimize evaporation during loading.

Tank cars may be unloaded either overhead or from the bottom. The latter is the method usually used because it is speedier.

The plant was not built by Independent but was taken over from a stock promotion company. Independent has put in new tanks, completely overhauled the pipe system, enclosed the lubricating oil tanks, and moved the loading rack away from the boiler house. The boiler which was coal fired under the previous ownership was within 10 feet of the gasoline loading rack.

The promotion company had established small bulk plants through the Salt Lake basin, or wherever it could sell stock. Independent has closed most of these plants and has assembled portable buildings at the Salt Lake City bulk depot. One of these buildings is now used as a supply house. A storeroom has several score bins, in which all types of standard fittings are kept for use at both the bulk plant and service stations. There is no hunting around for a fitting or part when it is needed.

The same idea of orderliness is carried out in the service truck equipment of the company's construction and maintenance department. Panel-bodied light trucks are used for installation and maintenance work. Inside the bodies are compartments for tools and supplies so it is not necessary for the installation men to spend time searching for the fitting he needs and the right tool with which to install it.

The trucks are kept well painted and make a good appearance on the streets. Both chassis and bodies are red with the lettering in white. The company's gasoline and oil brand name "Parco" dominates the ensemble.

H. E. Johnston is president and manager of the company, which markets in Utah, southern Idaho and western Wyoming.

Develops Front Drive Tank Truck

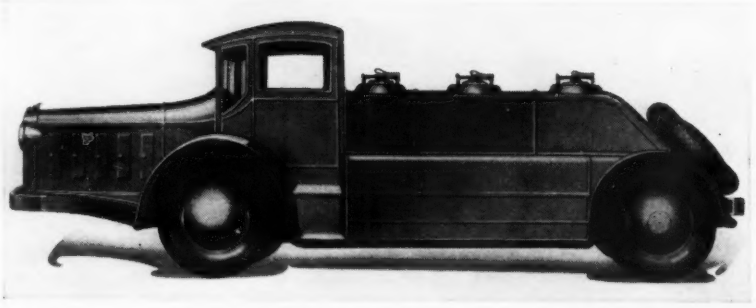
A FRONT wheel drive tank truck is being developed by the Columbian Steel Tank Co. of Kansas City. The unit as indicated in the accompanying illustration is being designed on revolutionary lines.

Cab and tank are being built into a mono-metallic unit so that no chassis frame will be necessary back of the cab. The rear wheel assembly is attached directly to the tank itself permitting an exceedingly low center of gravity.

The makers claim that it will be impossible to turn the unit over on the highway and that skidding will be impossible with the front wheel drive. With the usual chassis frame eliminated as in the Columbian frameless semi-trailer truck tank, the company says that it will be able to build 2000 to 3000-gallon units which will come within the load limits prescribed by most states.

The first unit now being built is of 1000 gallons capacity. It is powered by a Coleman unit which has tested capable of a speed of 50 miles per hour under full load.

On each side of the unit are underslung can racks fully enclosed behind piano-type hinged doors. The low racks are planned to save labor of lifting heavy cans to and from high racks.



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Capitol Tourist Apartments and service station at Salt Lake City

Motor Oil Volume Reaches High Average At High Class Tourist Lodge

By Roger B. Stafford
N. P. N. STAFF WRITER

SALT LAKE CITY

MOTOR oil sales can be raised at the better class tourist lodges to more than the national average in relation to gasoline sales, in the experience of the Capitol Tourist Apartments in Salt Lake City.

Sales of oil at the service station maintained in connection with these apartments average at least 3 per cent in volume of gasoline sales, said M. J. Gerritse, one of the owners of the Capitol.

This average is slightly higher than the accepted figure for the national average and may be accounted for by the fact that high class tourist lodges attract people with money in the west. This writer saw cars ranging up to Cadillacs parked in garages at some of the western lodges.

This lodge, a brick and half timber U-shaped structure, on South Temple street, Salt Lake City, is one of two in the southern part of the city that attract tourist traffic at a glance. The other is the Casa Blanca Auto Court. The latter is also a U-shaped building but of Spanish style in stucco. It is owned by J. E. Teague.

The Capitol has facilities for complete lubrication of cars. Besides the tourist trade the owners, Mr. Gerritse and F. De Nigtre, have succeeded in building up a worthwhile local business in gasoline and motor oils since they completed the apartments and service station early this year. They personally solicit the business.

These two lodges are considerably more eleaborate than the tourist camps which dot the main highways of the middle west and east. And they command better prices for lodging.

The Capitol and Casa Blanca each contain 14 apartments with garages, enclosed on three sides, between the apartments. The Capitol has six single apartments and eight double. The single apartments contain living room, a double in-a-door bed, kitchenette with folding table and benches for four persons, and bathroom with shower.

The double apartments contain two full sized beds, dining nook, bath with shower and tub. Each apartment, single and double, has telephone, radio, electric refrigerator and gas range. Drain boards to the kitchen sinks are of ceramic tile. The living and bedroom floors are carpeted. The kitchen floor has linoleum. The garages contained sunken receptacles for garbage.

The apartments rent for $4, $5, and $6 a night with weekly rentals on a six-day basis. Mr. Gerritse said the apartments had regular customers—salesmen who cover the inter-mountain territory—who would bring their families there while they worked the territory. All are steam heated for winter use.

The heating plant is in the basement of the service station building which stands near the street line. There also is the water heating plant. The heating facilities are under full thermostatic control.

The office of the Capitol is in the service station building. There also is the control for the master radio receiving instrument. The roof of the station extends over the double drive-

way for cars. The station has three metered pumps, and a lube fountain. There is a pit at the rear of the station. Products of the Continental Oil Co. are sold. Tires, tubes and a few auto necessities complete the merchandise line.

The Casa Blanca Auto Court is older than the Capitol. It has six double apartments with two beds, and tub and shower bath each, and eight single apartments with one bed and shower bath each. All apartments have kitchenettes with gas ranges and ice boxes. All apartments have radio. Floors are of oak except in the bath, which is tiled, and are carpeted. Single apartments rent for $2.50 a night and double apartments for $3.50.

The office is in the station building which is at the front center of the lot. Three gasoline pumps are on an island with Spanish tile canopy. Utah Oil & Refining Co. gasoline and Vice Quaker States and Texaco motor oils are sold there. This station does not have lubrication facilities at present.

The station building is divided into an oil room and an office for the apartments.

Tourist camps and lodges in Salt Lake City are policed far more strictly than hotels. They are required not only to register their patrons like hotels but they must also record the date and hour of arrival, cottage number, addresses of occupants, number in the party, make of car, license number and state issuing license, description of car, color of car, hour of departure of patrons, and destination.

New Stations Building

Note: Material used in this column is taken principally from newspapers. NATIONAL PETROLEUM NEWS assumes no responsibility for its accuracy. Headquarters of companies and addresses of individuals are given wherever possible.

The list as published from week to week cannot be looked upon as indicative of the relative extent to which stations are being built in various parts of the country.

Service Stations

Detroit Lakes, Minn.—Anton Johnson, Fargo, N. D.

Royse City, Tex. — Magnolia Petroleum Co., Magnolia Bldg., Dallas, Tex.

Comstock, Neb.—Charles McGrew.

Rockwell, Ia.—Champlin Refining Co. of Iowa, 202 S. Monroe St., Mason City, Ia.

Vernon, Ind.—Mrs. Cora B. T. Hargesheimer, North Poplar St.

Big Rapids, Mich.—Charles Troupe, Marion Ave. and State St.

Amherst, Wis. — F. R. Gallagher, Waupaca, Wis.

Aurora, Ind.—Duke Bros.

Amarillo, Tex.—Magnolia Petroleum Co., Magnolia Bldg., Dallas, Tex.

Dayton, O.—Caldwell & Taylor Corp.

Lisbon, O.—Lisbon Lumber Co.

Kankakee, Ill. — Erzinger Oil Co., 1025 South Wildwood Ave.

Louisville, Ky.—Charles Dralle, 2701 Bardstown Rd.

Almond, Wis.—William Hintz.

Reedsburg, Wis.—Standard Oil Co. of Indiana, 910 S. Michigan Ave., Chicago, Ill.

Torrington, Conn.—Thomas Mekdeci, 522 Main St.

Buffalo, N. Y.—Hyman Levinstein, 264 Clinton Ave.

Binghamton, N. Y.—The Pure Oil Co., 35 E. Wacker Drive, Chicago, Ill.

Buffalo, N. Y.—Goodyear-Wende Oil Corp.

Providence, R. I.—Joseph Parkhurst, 1132 Cranston St.

Hartford, Conn.—Leo A. Combe, William and Main Sts.

Providence, R. I.—Earl A. Larson, Jr., 1478 Elmwood Ave.

Torrington, Conn. — Harry Whalen, Torringford Rd.

Providence, R. I.—Earl Irons, Natick Ave.

St. Albans, N. Y.—Frank Nardine, Lake and Cedar Sts.

Leominster, Mass.—Francis S. Smith, 564 North Main St.

St. Albans, N. Y.—Robert M. Wood, South Main and Fairfield Sts.

Wheeling, W. Va.—Ross Armstrong, 1507 Warwood Ave.

Portsmouth, O.—Carl F. Bauer.

Lovilia, Ia.—Dutch Mill Oil Co.

Tama, Ia.—Herbert Kubicek.

Algona, Ia.—Chauncy Hookstra.

Des Moines, Ia. — R. C. Middleton, Ninth and Mulberry Aves.

Stephen, Minn.—Lundeen Bros.

Ludington, Mich. — Hart Petroleum Co., Hart, Mich.

Columbus, O.—Ham & Koons, 1170 West Broad St.

Jonesville, Mich. — Rex Camburn, Hillsdale, Mich.

Summit, Wis.—John Frey.

Columbus, Ind.—Russell Francisco.

Hicksville, O. — O. R. Humbarger, Limpert Bldg., E. High St.

Almond, Wis.—William Hintz.

Hillcrest, Wis.—Gilbert Krug.

Chrisman, Ill.—H. P. Perrin.

Hartford, Conn.—William Muelleder, East Main and Edwin Sts.

Mt. Jion, Ind.—T. H. Axton.

Hartford, Wis. — Jerome McComb, Pike Lake, Wis.

Lafayette, Ind.—B. P. Bogan, First and Main Sts.

Loretto, Tenn.—W. E. Ellis.

Caro, Mich.—Fred C. Striffler.

Crandon, Wis.—The Texas Co., Houston, Tex.

Chicago, Ill.—John Stosur, 11133 Edbrook Ave.

Columbus, O.—Standard Oil Co. of Ohio, Midland Bank Bldg., Cleveland, O.

Niles, Mich.—Standard Oil Co. of Indiana, 910 S. Michigan St., Chicago, Ill.

Slayton, Minn.—Philip Gray.

St. Paul, Minn.—R. Venne, 171 W. University Ave.

Brainerd, Minn. — Sinclair Refining Co., Conway Bldg., Chicago, Ill.

Ladysmith, Wis. — Wisconsin Northern Oil Co., Rice Lake, Wis.

Fessenden, S. D.—R. G. Pritchard, N. Main St.

Solon Springs, Wis.—Leslie Youngquist.

Minneapolis, Minn.—R. E. Shepherd, 2711 Dupont Ave.

Mankato, Minn. — National Refining Co., National Bldg., Cleveland, O.

Courtland, Minn. — Herman Havemyer.

Madison, S. D.—Rohrer & O'Lien.

Clinton, Ia.—Elmer Simpson, 15th Ave., South and 19th St.

Casa Blanca Auto Courts and service station at Salt Lake City

What a Break for an Engineer!

We've heard many tell how they would run gasoline stations if given a chance. Here's one who had the chance.

IN MOST large oil companies conversation in other departments turns often to the problems of the merchandising branch of the business. Production engineers, geologists, refinery engineers, natural gasoline men and others discuss the situation and usually admit that this branch of the business is badly bungled. If they were in charge they would do thus and so and cut out all this foolishness, battling for gallonage, building unwise stations, etc., etc., so they say.

But it is seldom that one of these men actually gets a chance to put his theories to the test.

For a good many years H. B. Bernard, vice president of the Sinclair Oil & Gas Co., was in charge of natural gasoline operations. He was an engineer by training and his duties included the design, erection and operation of plants in the various oil fields. He also supervised the sale of natural gasoline, the company producing much more than the Sinclair refineries required.

In his position as executive, Mr. Bernard heard a good deal of talk among the plant engineers and operators, who were being pressed to keep their costs at a low figure and to produce the grade of material demanded by the sales department. The plant men took the position that, if the sales department was any good, it would get a better price for the gasoline and would sell the grade which the plant can produce in greatest volume, with the least manufacturing loss.

Mr. Bernard also heard the sales department men complain about the grades of gasoline which the manufacturing department wanted sold, and the cost figures the plant operators set up.

These discussions were barred from the gasoline department by Mr. Bernard several years ago. He announced that, if the arguments did not cease, he would let men in each department exchange jobs for a few weeks, so that they could put their pet reforms into practice. The arguments subsided quite quickly after that. The switch was not necessary.

Shortly before Sinclair took over the Pierce Petroleum Corp. properties in the southwest H. F. Sinclair, chairman of the Sinclair Consolidated Oil Corp., called Mr. Bernard into his office and casually announced that he had a new job for him. You are now in the car washing business and an operator of one-stop service stations, he told him. Later when the Pierce was taken over the Pierce Pennant hotels and tourist taverns were added to the properties of the Sinclair Automobile Service Corp. which already included Merry-Go-Rounds in Chicago, St. Louis, Cleveland and Atlanta.

H. B. Bernard

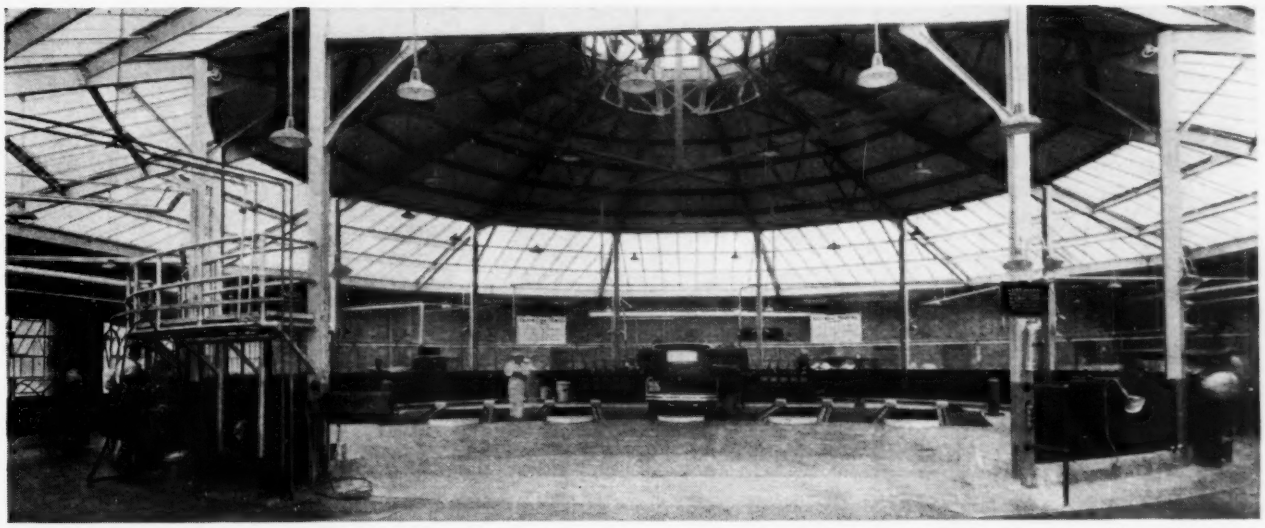
From then on Mr. Bernard quit making gasoline and began selling it. It is interesting to note what an engineer has done when transplanted from his profession into what appears to be an entirely foreign line of work.

As a matter of fact, Mr. Bernard believes there is no essential basic difference between engineering and merchandising.

"Good engineering consists of the application of common sense in the handling of men and materials," he says.

His definition of good merchandising is identical. In both lines of work he believes that handling of men is of the utmost importance. If a gasoline plant is to be built so it will run right the men must be properly trained and directed. If a gasoline service station is to yield a profit the men who operate it must be handled just as carefully.

As an engineer Mr. Bernard is a believer in precision. As a sales executive he demands the same thing. He thinks there is one best way to approach a customer create a good impression and he insists that his station employes learn that way and make it habitual, so it will be done instinctively. In that respect his methods border on the



Where Sinclair's Merry-Go-Round stations get the name. Cars are washed on the circular traveling platform in the building shown above, the car entering at the left and coming off at the right, completely washed. The washing and drying is done by men at various positions alongside the moving platform

military. The customer must be greeted with a hand raised to the visor of the salesman's cap in a motion that approaches a salute. The greeting must be precise and the steps in making the sale all taken without fail.

Station salesmen are not trained in schools by the class room method. They are trained as they go about the job.

This, of course, is easier at the Merry-Go-Rounds and Pennant Terminals than it would be at smaller stations. These installations are all so large that several men are at work under a station manager who is able to spend a good bit of his time with a new man until he has formed the desired habits. The manager is watching also to see that discipline is maintained and the military precision not lost through carelessness.

With two large hotels and six restaurants in his chain of establishments, in addition to his one-stop stations, Mr. Bernard does not look first at the number of gallons of gasoline and motor oil sold when he receives his reports. His attention is first fixed on the profit and loss statement.

Often he is asked how his gallonage is at certain stations. He quite often replies that his stations did so many thousands of gallons of ice tea, so many of coffee and so many of milk, not mentioning gasoline or motor oil at all. This is illustrative of his attitude that his job is to see that the various establishments sell all of the merchandise they can at a profit—profit being the only consideration which will justify the sale.

With that idea in mind it is not difficult to understand that the stock of goods sold at all stations is not identical. Some stations sell one thing and some another. For example at Chicago the Merry-Go-Round is near the University of Chicago tennis courts. So one of the fastest selling items on the stock list is tennis balls. To catch the eye of the motorist on his way to the golf course most of the stations carry golf balls and tees in the show cases on pump islands.

At St. Louis the Merry-Go-Round has had a big run on the sale and installation of radios in automobiles. A mail order business developed at Cleveland for an exhaust whistle when a number of youths at Cleveland colleges bought them and took them back to small towns on their cars, where their musical notes were greatly admired by other youngsters.

A rather extensive line of automobile accessories is displayed at show cases on pump islands but experience has shown that more sales are made because of displays near the greasing pits and the washing platforms. Drivers standing around while waiting for their cars to be serviced see the accessories attractively displayed and needs or desires are suggested at a time when there is leisure to examine the articles and have them installed without delay.

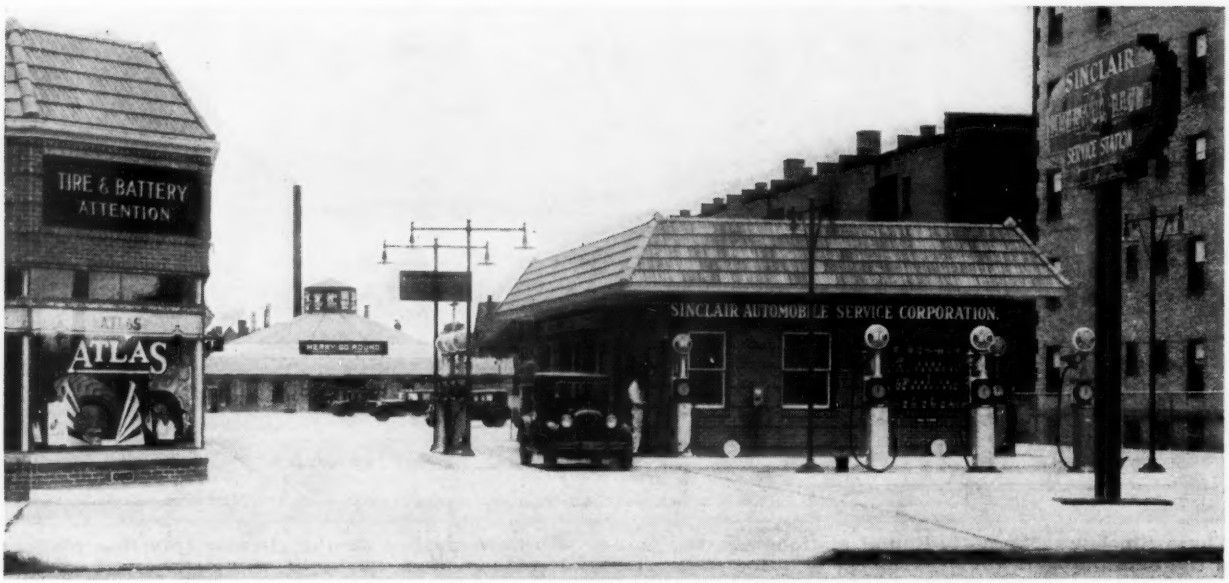
An effective display at one station is a drum entirely filled with discarded spark plugs. The salesman who sees a waiting customer glance at this drum has an opening to pick up a few of these and show how the points have been burned and explain how this effects car op-

Where to Display Accessories

AUTOMOBILE accessories sell better when displayed near lubrication pits or lifts, or near wash racks, than when displayed on the pump islands at stations, in the experience of the Sinclair Automobile Service Corp.

The reason is that the man waiting for his car to be greased or washed sees the display and looks it over to kill time, if for no other reason. He is often in a frame of mind to make a purchase if the suggestion is put forward in the right manner.

Displays on the pump island, for the most part, catch the eye only as the motorist is waiting for the operator to put gasoline or oil in his car and make change.



The Sinclair Automobile Service Corp.'s Merry-Go-Round station in Cleveland

eration. He then can suggest a test of plugs on the customer's car.

Following are some of the items which move well: sun visors, hub caps, cigar lighters, purolator cartridges, polish and polish cloths, fan belts, wiper blades, spark plug wiring and spark plugs, flash lights, signal finders, hinge and rear vision mirrors, dash clocks, multi-tone horns, bumpers, valve cores and caps and chamois skins.

A recent innovation at the Cleveland station is the "Safety Lane." A part of the drive from the Euclid Ave. entrance of this station has been equipped with a brake tester and a wheel alignment tester. The customer is urged by large signs to drive across these devices and make his own tests. The brake tester is of the type which shows braking power applied to each wheel by a column of red liquid. The wheel alignment indicator shows front wheel slippage in either direction in feet per mile and rings a bell if wheels are out of line.

These two pieces of equipment develop considerable business for the brake and wheel aligning departments. Many regular customers drive over the test apparatus at least once a week.

The system of restaurants and hotels in connection with Sinclair stations extends from St. Louis to Tulsa on Highway 66. and includes a hotel and resturant group at Columbia, Mo., half way between Kansas City and St. Louis on Highway 40. These stations have been adding amusement features as well as food and lodging during the past year.

At Des Peres, Mo., near St. Louis, miniature golf has been a big money maker although most such pee wee courses in St. Louis have been losers this year. After meals in the well appointed dining rooms motorists appear to like to play the 36-hole course before going on with their drive. On week ends the Des Peres chicken dinners at $1 are highly popular. As many as 1700 of these special dinners have been served on a single Sunday.

At Columbia, Mo., the hotel has opened a nine-hole golf course which requires the use of a full bag of clubs. Guests of the hotel may use the course without charge. Missouri university students and others are charged green fees.

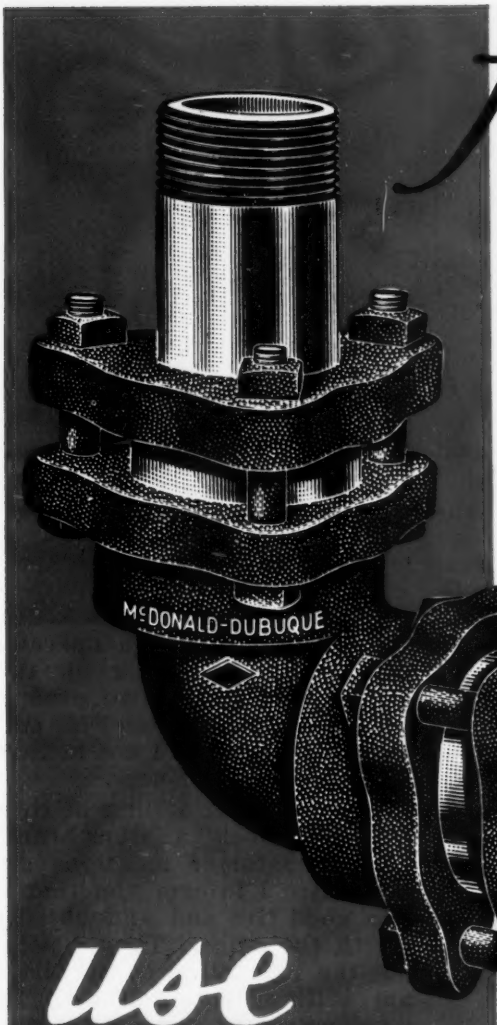
The average oil man may think that the restaurant and hotel business is simple one as compared with the oil business, but this is not the experience of Mr. Bernard. He finds it one in which details have to be watched with the utmost care if profits are to be made. As an example: it is difficult to make kitchen help watch the silver when cleaning dirty dishes. Some months the farmer who collects garbage from the restaurant for his hogs brings back as much as a bushel of silverware which the hogs have refused to eat.

In some respects Mr. Bernard has applied oil industry methods to his restaurants. One of his first steps was to centralize buying and set up a warehouse system. This warehouse system was taken bodily from the oil field system used by the producing company. It is a perpetual inventory system with warehouses from which supplies are issued on requisition. Each restaurant has its own warehouse from which food supplies as well as silver, linen, crockery and glassware are issued—only on requisition. The installation manager watches stocks.

Now It's Philgas Co.

DETROIT—Change of corporate name from Philfuels Co. to Philgas Co. is announced by G. G. Oberfell, president. The company is Phillips Petroleum Co.'s liquefied petroleum gas subsidiary. No changes in policies or personnel are involved.

"One division of our company deals direct with the public—marketing propane gas for homes beyond the gas line under the tradename 'Philgas.' Hundreds of thousands of people have naturally called the organization 'Philgas Co.' So we decided it would be easier to change the name than to attempt to get many people to use the former corporate name," said Mr. Oberfell.



for those Flexible Connections *that must go–*

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● There's a type and size for every need. Leak-proof—flexible—durable—made in double or single styles—bolted or screw gland—all brass or iron body—with sizes ranging from ¾ inch to 12 inches. That's the variety of Swing Joints offered by "The Home Of The Swing Joint". Let us quote on your immediate needs.

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Why I Sell Tires • • •

A Dealer's Experience With Tires, His Best Merchandising Practices, And Why He Likes To Take Trade-Ins

By Claude L. Lyman*

AFTER studying the proposition for some time I started to merchandise tires, believing my oil station afforded the logical means of contact with my customers who are in need of tires. And all motorists need new tires at some time.

While servicing automobiles with gasoline, oil, and air, and while giving lubrication service, I have an opportunity to inspect the tire equipment. Often the customers have time to talk about their tires. Thus my prospective customers are brought into my place of business.

Tire changing and repairing, while profitable in itself, gives me an opportunity to point out defects and to suggest a purchase of a new tire. In many cases the motorist is not aware of the bad condition of his old tires. This leads to many sales that otherwise would be lost.

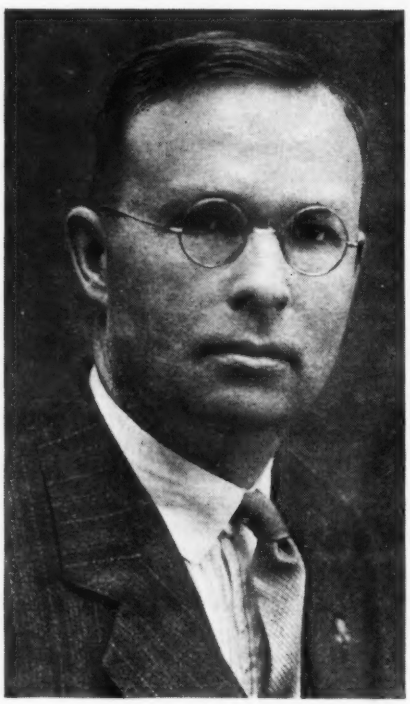
Through regular contact my customers have learned to take my advice on the lubrication and care of their autos, and naturally they are willing to accept suggestions about tires. In other words, I have a regular, frequent contact with car owners while the separate tire store sees the prospective buyer only after he has made up his mind to purchase a tire, and comes of his own accord to the tire store. This is excepting, of course, the contacts of a tire store with customers needing tire repairs.

In deciding on what tire to sell, I chose a well known, well regarded brand of tires. This allows me to take advantage of the rubber company's prestige and advertising, and allows me to present merchandise with which the public is already familiar. There also is a certain satisfaction to me in the selling of a good piece of merchandise.

Now tire selling has its disadvantages, as well as its advantages. The chief disadvantage is that of price competition. Usually competition of the old line rubber companies is good and clean, providing all dealers sell at the fair, advertised prices outlined by the manufacturer.

However, some rubber companies are giving their dealers a discount or bonus on the entire year's volume. The bonus increases as the volume of sales rises. This practice leads some dealers to cut retail prices to their regular costs in order to obtain the bonus at the end of the year.

*Dealer, Cities Service station, Oberlin, Ohio.



Claude L. Lyman

Author of the accompanying article, a successful service station operator

Every dealer, I believe, is entitled to a fair profit to cover his investment, time, overhead, and service he gives. The dealer who cuts his prices below the point of making a reasonable profit is making a mistake.

The service station operator also should not allow his tire work to interfere with prompt service to gasoline and oil customers. He should not neglect his petroleum business.

In the actual selling of tires I never "knock" another brand. If the customer mentions another tire I inform him that it is a good tire and undoubtedly worth the price. Then I point out the reputation of the tire I am selling, together with its good points of appearance and construction.

I am careful *to show him a tire of the exact size for his auto,* and lead him on to inspect and to feel it. Placing the tire in the customer's hands is a big start towards selling it. *Let him handle it. Let him feel it.*

Another good sales point is to have a service car, or your own personal car, at the station so you can show the prospective buyer how the tires actually look when mounted. Tell him the number of miles on these tires. This information stimulates his interest, and leads to actual sales.

Some large oil companies have found that tire merchandising is not profitable but I believe that the addition of tires to the stock of a live, Independent gasoline merchant, who personally runs his own station, can be made a profitable source of income. That is, providing he carries an adequate stock to take care of his customers promptly, and that he learns all about the goods he sells so he

Lyman's service station, in Oberlin, Ohio

can talk tires inteligently to his customers.

The acceptance of used tires in trade I believe is a good practice. I make a fair allowance on used tires providing they are in serviceable condition for resale. I find a ready market for them among drivers of old cars, and persons too short of money to purchase new equipment.

Making an allowance for old tires leads to the sale of new tires in complete sets. However, I am always sure to make a certain money profit on the new tires, and the used tire sales bring in an extra profit. *A large stock of used tires is an asset, I find, and it does not worry me.*

Occasionally I find the used tire is not serviceable even if the outside looks good. Also, a sale is often postponed and the used tire condition may change for the worse before a customer finally buys a new one.

The time-payment plan of financing has worked well for me. I merely lease the tires to the user until they are paid for, and retain the right by the contract signed by the buyer to remove them if payments are not made. These contracts are written to protect the seller even if the car should be replevined. The form is that used by the manufacturer, but I carry on my own financing instead of selling the contract.

Care must be exercised of course in choosing the customer on the payment plan and the proper amount should be added to the price to cover collections, interest and possible loss. So far my bad debt losses on tires have been nothing.

My time-payment plan allows the customer to pay about a fourth down, and the balance in six or twelve payments over a three month period.

The location of my station on a main highway (it is on an east-west federal route) probably accounts for the sale of about 25 per cent of my tires, and about 50 per cent of repair work. A tourist will have a tire repaired, but dislikes purchasing a new tire away from home.

Most tires are sold by talking tires at every opportunity. One personal contact is worth much more than many leaflets, advertisements or personal letters. Occasionally I take time to call on customers whose tires I have noted as being in a weakened

Recommended Tire Stock For Dealers

FOLLOWING is a list of tire sizes, recommended by Mr. Lyman as a suitable stock for a dealer station. The recommendation is made for present conditions, and for one brand, not for a station handling a first and second line of tires.

Quantity	Size	Ply		Quantity	Size	Ply	
4	440 by 21	4	low priced	4	525 by 18	4	
4	450 by 21	4	regular line	4	525 by 18	6	
4	450 by 21		low priced	2	550 by 18	4	regular line
4	450 by 21	6		4	525 by 21	4	regular line
4	475 by 19	4	low priced	4	550 by 19	4	regular line
4	475 by 19	4	regular line	4	550 by 19	6	
4	475 by 19	6		1	600 by 17	6	
2	475 by 20	4		4	600 by 18	6	
4	450 by 20	4	low priced	4	600 by 19	6	
4	450 by 20	4	regular line	4	600 by 20	6	
2	450 by 20	6		4	600 by 21	6	
4	500 by 19	4	regular line	2	650 by 19	6	
4	500 by 19	6		2	30 by 5	8	truck tires
4	500 by 20	4	regular line	2	32 by 6	8	truck tires
2	500 by 20	6		1	super tire any size as sample		

36 regular line tubes to cover all casings, as the same tube may fit several size casings.
6 low priced tubes (4.40, 4.50, by 20 and 21, and 4.75 by 19).
1 air container tube as sample.
No high pressure passenger tires as demand is small.

STARTING
The New CONOCO
Advertising the

CONOCO

EVERY SUNDAY OVER N.B.C. NET WORK
and Other Selected Stations

Listen to the New CONOCO programs every week over your favorite station.

Every Sunday, 10 to 10:30 a. m., Central Standard Time, Over:

WENR, Chicago — KVOO, TULSA
WOC, Davenport — WKY, Okla. City
WHO, Des Moines — WBAP, Fort Worth
WDAF, Kansas City — WOAI, San Antonio

Every Sunday, 9 to 9:30 a. m., Mountain Time, Over:

KOA, Denver — KSL, Salt Lake City

Also Over These Stations at Local Times Listed---

Every Sunday, 10 to 10:30 a. m.

KGA, Spokane — KOB, Las Cruces
KGIR, Butte — KFAB, Lincoln
KIDO, Boise — WDAG, Amarillo
KTAR, Phoenix — KGGM, Albuquerque
WCCO, Minneapolis

Every Sunday, 1 to 1:30 p. m.

KFBB, Great Falls — WBBZ, Ponca City
WRVA, Richmond

Every Sunday, 2 to 2:30 p. m.

KTHS, Hot Springs

Every Thursday, 7:30 to 8 p. m.

WAAM, Newark

SUNDAY, DECEMBER 6

RADIO PROGRAM

Conoco Travel Bureau

"EXPLORING AMERICA"

WITH CONOCO AND

CARVETH WELLS

World Famous Explorer and Adventurer

MUSIC

BY THE NEW CONOCO ORCHESTRA

HERE'S a new kind of radio entertainment that you and millions of other listeners will enjoy! Exploration trips to the sights and wonders of America, under the guidance of Carveth Wells, famous explorer and adventurer, member of the Explorers' Club and fellow of the Royal Geographic Society. See the most interesting spots in our country through his keenly observant eyes. Hear unusual stories about places you have seen or hope to visit some day. Hearing Wells tell about them is the next thing to being there yourself!

Enjoyable music by the New CONOCO Orchestra, too!

CONOCO Sponsors these programs to advertise the free services offered to motor travelers by the CONOCO Travel Bureau and its field branches---identified by the CONOCO Red Triangle. The CONOCO Travel Bureau, an outstanding success, is a big factor in merchandising CONOCO products for CONOCO outlets everywhere. Whether you handle CONOCO products or not, you'll profit by knowing more about CONOCO Travel Bureau service. And you'll enjoy the programs . . . so . . .

Tune in Your Favorite Station Every Sunday at the Time Shown

CONTINENTAL OIL COMPANY

Albuquerque, New Mexico
Butte, Montana
Denver, Colorado
Fort Worth, Texas
Great Falls, Montana
Kansas City, Missouri
Lincoln, Nebraska
Richmond, Virginia
New York, N. Y.
Ponca City, Oklahoma
Salt Lake City, Utah
(CONOCO OIL CO.) Chicago, Illinois

condition. I always record the allowance I have made on their old tires. I try to avoid acting too eager to make the sale.

As few trucking lines start in my town there is not much opportunity for commercial business. However, I am selling some 32 by 6, 30 by 5, 7.50 by 20 and 9.00 by 20 truck tires. These usually can be made to net a good profit, as there is seldom a trade-in on truck tires.

In conclusion, my belief is that the same merchandising of tires by the station man will increase his profits without having a bad effect on his petroleum business. Lastly, I would say, "watch your credit customers."

Lyman Sells Tires to Fit Customer's Needs

MR. LYMAN has overlooked what is probably his most valuable merchandising practice, in writing of his tire experience for NATIONAL PETROLEUM NEWS. This practice is applicable to any type service station, and is the nub of real merchandising of any commodity.

Mr. Lyman does not sell a specific tire. **He sells tires to meet the needs of the customer.**

A demonstration of this practice was witnessed recently by the writer. Mr. Lyman knew the customer, in a business way, and knew also the driving conditions of his automobile—information available to any merchandiser who cares to take the trouble to obtain it.

While the customer's car was on the lift for lubrication Mr. Lyman noted that the tread on the rear tires was about worn smooth. After the car was on the ground Mr. Lyman started his merchandising talk, in this order.

Mr. Lyman looked at the speedometer.

"How long have you driven the car, and are these tires original equipment?" he asked.

"How long do you plan to drive this car before trading-in?"

"Do you want to buy tires for the life of the car in your possession, or is low-priced rubber a greater consideration now?"

Mr. Lyman then recommended a grade of tire that he believed would last the life of the car in the customer's possession.

"Now those rear tires are smooth, not much traction on wet pavements this winter," he continued, "and I would recommend buying now instead of putting it off until spring. You will have safe tread this winter, and the tires will last the life of the car anyway."

A sales talk on the quality of the tire followed. Then a price was given on a set of four tires, and the sales talk concluded with the definite question, "Do you want me to put them on now?"

Contrast this merchandising to the same customer's experience at a company owned station, the operator on salary, when the customer stopped in the next day to compare Mr. Lyman's price. The conversation follows in the exact order of questions and answers.

At the pump the customer asked, "What is the price of tires for this car?" "So-much," the operator said.

"Is that a four-ply tire?"

"Yep," the operator said.

"What is the price of a six-ply tire?"

"Hell, mister, your car will ride like a lumber wagon with six plys," was the brilliant merchandising reply.

After an explanation as to why the customer wanted six plys, the operator called to his fellow-workman in the station building to look up the price.

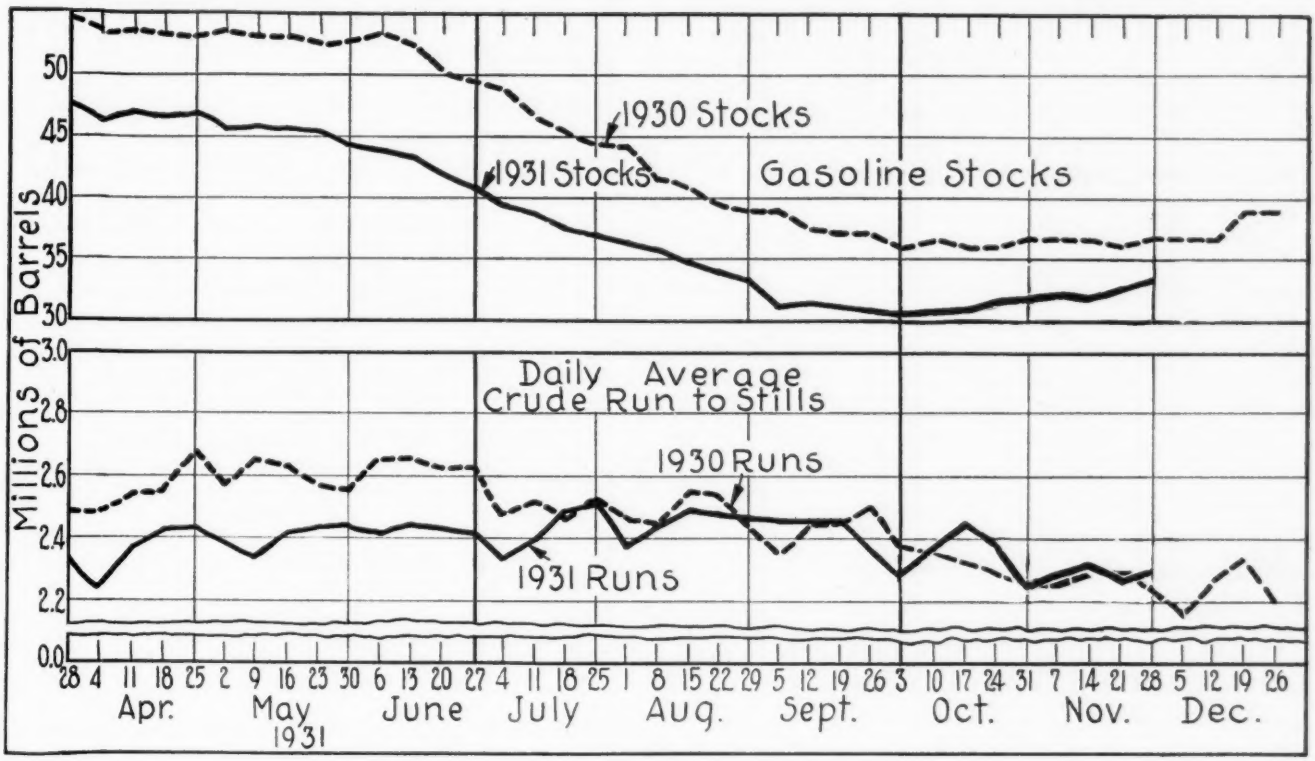
Then the operator began a sales talk on the quality of his tire, and its guarantee.

As the customer prepared to drive away the operator looked at the condition of the tires, for the first time, and his parting merchandising remark was:

"Your tires will last you over the winter. Come on back in the spring and we'll fix you up."

Figures 25 feet high, dressed in the white uniform of the station operators, with a "doughboy" hat striped in red, white and blue, stand alongside the gasoline pump at some Standard Oil Co. of California stations, to beckon the motorist. The right arm moves up and down in a salute. Floodlights at the base light the figure at night

U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.



U. S. Gasoline Stocks Increase 1,174,000 Barrels

By Telegraph
NEW YORK, Dec. 1

STOCKS of gasoline increased 1,174,000 barrels in the week ended Nov. 28 at refineries that report to the American Petroleum Institute. Stocks Nov. 28 were 33,685,000.

Stocks of gasoline at bulk water terminals east of California and in transit to these terminals increased 197,000 barrels to 13,114,000 barrels. Total gasoline stocks outside the distributing system thus increased 1,371,000 barrels.

Every refining group in the country added to stocks as the Thanksgiving holiday interfered with normal business and the country as a whole got its first taste of winter. California refiners alone added 384,000 barrels of gasoline to their already burdensome inventories. Indiana-Illinois gasoline stocks rose 205,000 barrels, Oklahoma-Kansas 164,000 barrels, Texas 163,000 barrels and East Coast 104,000 barrels.

In spite of the lower rate of demand refiners increased their runs of crude to stills 31,000 barrels daily average to 2,292,000 barrels daily average, far above the level recently recommended in view of probable winter gasoline demand.

Fuel oil stocks continued to rise slowly.

Current Refinery Operations

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels) Gasoline		Gas & Fuel Oil		Cracked % of Total Capacity Reporting	Gasoline Production Daily Av. Production (Barrels) Week Ended	
		Nov. 28	Nov. 21	Nov. 28	Nov. 21	Nov. 28	Nov. 21	Nov. 28	Nov. 21	Nov. 28	Nov. 28	Nov. 21
East Coast	100.0	438,000	414,900	69.1	63.9	4,231	4,127	10,202	10,209	94.3	96,900	93,600
Appalachian	91.8	99,500	99,900	72.4	72.7	1,264	1,201	1,664	1,634	96.1	23,700	23,900
Ind., Ill., Ky.	98.9	319,000	311,600	73.9	72.2	3,437	3,232	5,852	5,776	95.5	91,700	81,600
Okla., Kans., Mo.	89.6	235,400	244,700	54.1	56.2	2,828	2,665	4,790	4,892	92.3	51,000	48,300
Texas	91.3	532,400	567,000	69.6	74.1	6,668	6,504	11,993	11,838	96.8	126,900	129,600
La., Ark.	98.9	162,700	159,700	70.6	69.3	1,032	952	4,070	4,053	100.0	31,700	36,700
Rocky Mountain	89.4	50,200	46,000	34.9	32.0	1,366	1,295	808	810	98.5	15,100	16,400
California	97.1	455,400	427,800	51.3	48.2	12,919	12,535	97,060	97,052	100.0	30,900	45,800
Total	95.2	2,292,600	2,261,600	62.5	61.7	33,685	32,511	136,439	136,264	95.6	467,900	475,900
Texas (Gulf Coast)	99.8	412,600	425,300	77.6	80.0	5,043	4,964	8,680	8,504	98.6	98,700	102,700
La. (Gulf Coast)	100.0	116,400	136,700	78.9	72.3	876	827	3,264	3,264	100.0	22,100	26,900

Compilation Of Mid-Continent Refinery Operations

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Mid-Continent Refinery Operations, Week Ended November 27 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended Nov. 27
Plants Reporting.....	10	23	23	10	10	76
Da. Av. Cap. (Bbls.)..	94,000	162,500	107,400	71,500	60,700	496,100
Da. Cracking Capacity	53,200	64,600	23,100	26,250	31,700	198,850
Da. Av. Crude Runs..	56,251 + 5.0	93,486 — 2.6	56,805 — 18.0	18,149 — 36.3	36,274 — 18.5	260,965 — 10.6
Da. Av. Other Oil....	7,205 + 12.7	2,373 — 40.6	2,933 — 22.3	754	16,883 — 1.0	30,148 — 3.4
GASOLINE—Gallons						
Stocks, Nov. 20.....	23,099,000	32,762,000	31,415,000	14,413,000	4,645,000	106,334,000
Prod. 11-20 to 11-27..	12,829,000 + 22.1	15,190,000 — 6.4	10,019,000 — 9.2	2,120,000 — 23.8	6,289,000 — 9.2	46,447,000 — 2.2
Ship. 11-20 to 11-27...	9,367,000 — 30.6	12,676,000 — 22.4	8,960,000 — 14.1	1,920,000 — 0.1	4,721,000 — 26.2	37,644,000 —22.5
Stocks, Nov. 27.....	26,561,000 + 15.0	35,276,000 + 7.7	32,474,000 + 3.4	14,613,000 + 1.4	6,213,000 + 33.8	115,137,000 + 8.3
Ratio Sales to Prod...	73.0%	83.4%	89.4%	90.6%	75.1%	81.0%
KEROSINE—Gallons						
Stocks, Nov. 20.....	11,008,000	13,265,000	2,374,000	30,000	397,000	27,074,000
Prod. 11-20 to 11-27..	2,019,000 + 37.2	1,883,000 — 7.5	1,025,000 — 3.3	22,000	260,000 — 37.5	5,209,000 + 4.5
Ship. 11-20 to 11-27..	1,335,000 — 56.6	1,272,000 — 46.7	1,312,000 + 9.3	16,000 +100.0	266,000 — 36.4	4,201,000 — 40.7
Stocks, Nov. 27.....	11,692,000 + 6.2	13,876,000 + 4.6	2,087,000 — 12.1	36,000 + 20.0	391,000 — 1.5	28,082,000 + 3.7
Ratio Sales to Prod...	66.1%	67.6%	128.0%	72.7%	102.3%	80.6%
STOVE DISTILLATE—Gallons						
Stocks, Nov. 20.....	1,998,000	12,839,000	383,000	79,000	36,000	15,335,000
Prod. 11-20 to 11-27..	461,000 + 38.9	757,000 + 19.0	61,000 — 65.7	....	46,000 +119.0	1,325,000 + 10.9
Ship. 11-20 to 11-27...	319,000 — 34.0	154,000 + 42.6	169,000 — 1.2	1,000 — 96.6	32,000 + 28.0	675,000 — 17.3
Stocks, Nov. 27.....	2,140,000 + 7.1	13,442,000 + 4.6	275,000 — 28.2	78,000 — 1.3	50,000 + 38.9	15,985,000 + 4.2
Ratio Sales to Prod...	69.2%	20.3%	277.0%	....	69.6%	50.9%
GAS OIL—Gallons						
Stocks, Nov. 20.....	11,172,000	37,601,000	7,651,000	1,912,000	6,534,000	64,870,000
Prod. 11-20 to 11-27..	689,000 — 18.8	210,000	146,000 — 80.1	315,000 — 46.2	2,412,000 — 4.2	3,772,000 — 10.0
Ship. 11-20 to 11-27...	1,263,000 — 18.7	1,333,000 + 14.0	527,000 — 28.9	158,000 — 67.1	2,652,000 — 4.1	5,933,000 — 11.6
Stocks, Nov. 27.....	10,598,000 — 5.1	36,478,000 — 3.0	7,270,000 — 5.0	2,069,000 + 8.2	6,294,000 — 3.7	62,709,000 — 3.3
Ratio Sales to Prod...	183.3%	634.8%	361.0%	50.2%	110.0%	157.3%
FUEL OIL—Gallons						
Stocks, Nov. 20.....	15,429,000	72,403,000	91,182,000	21,815,000	20,302,000	221,131,000
Prod. 11-20 to 11-27..	4,451,000 — 1.5	4,451,000 — 18.3	5,642,000 — 12.8	1,637,000 — 45.2	3,905,000 — 19.1	20,086,000 —17.4
Ship. 11-20 to 11-27...	5,944,000 + 6.7	7,449,000 + 34.7	6,048,000 + 26.4	2,709,000 — 4.8	3,934,000 — 8.1	26,084,000 +13.3
Stocks, Nov. 27.....	13,936,000 — 9.7	69,405,000 — 4.1	90,776,000 — 0.4	20,743,000 — 4.9	20,273,000 — 0.1	215,133,000 — 2.7
Ratio Sales to Prod...	133.5%	167.4%	107.2%	165.5%	100.7%	129.9%

Gasoline Produced by Various Methods, Week Ended November 27

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run.....	7,855,000	61.2	9,279,000	61.1	5,613,000	56.0	1,595,000	75.2	3,022,000	48.1	27,364,000	58.9
Cracked.....	3,981,000	31.0	4,774,000	31.4	2,904,000	29.0	473,000	22.3	2,849,000	45.3	14,981,000	32.3
Natural.....	993,000	7.8	1,137,000	7.5	1,502,000	15.0	52,000	2.5	418,000	6.6	4,102,000	8.8
Total.....	12,829,000		15,190,000		10,019,000		2,120,000		6,289,000		46,447,000	

+ or — columns are % change over previous week.

Gasoline Demand Falls Sharply; Stocks Shoot Upward

Staff Special—By Telegraph
TULSA, Dec. 1

GASOLINE shipments from Mid-Continent refineries fell 10,900,000 gallons the week ended Nov. 27 from shipments the preceding week. The slump was due in part to the Thanksgiving day holiday and in part to bad weather in territory supplied by Mid-Continent refineries. All districts reported declines in shipments.

Crude oil runs were reduced 30,800 barrels daily average, reducing gasoline output 1,000,000 gallons. All districts except Kansas cut runs. In spite of the curtailed output, gasoline stocks rose 8,800,000 gallons.

Crude oil runs last week were approximately 40,000 barrels a day less than a year ago. Output was less than 1,000,000 gallons less than a year ago. Shipments were off 3,000,000 gallons from shipments a year ago. Stocks were 9,000,000 gallons more than a year ago.

Kerosine production was larger than in the week before but shipments were 40 per cent less. Stocks rose 1,000,000 gallons. Distillate stocks also in-

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Nov. 27. Change in stocks figured from Oct. 30.

GASOLINE

	Gallons
Production	184,353,000
Shipments	173,564,000
Net change in stocks	+10,789,000
Ratio sales to production	94.1%

KEROSINE

	Gallons
Production	19,985,000
Shipments	20,857,000
Net change in stocks	—872,000
Ratio sales to production	104.4%

STOVE DISTILLATE

	Gallons
Production	4,401,000
Shipments	4,336,000
Net change in stocks	+65,000
Ratio sales to production	98.5%

GAS OIL

	Gallons
Production	20,543,000
Shipments	27,500,000
Net change in stocks	—6,957,000
Ratio sales to production	133.9%

FUEL OIL

	Gallons
Production	90,757,000
Shipments	91,164,000
Net change in stocks	—407,000
Ratio sales to production	100.4%

creased. Gas and fuel oil stocks were lowered.

Suggests Inspection Of Used Cars

CLEVELAND, Nov. 28.—A plan to certify the mechanical equipment of used automobiles to insure safer highways has been suggested to state governors and traffic officials by the International Petroleum Association, an organization with headquarters in Cleveland, that is offering a merchandising plan to jobbers under the Black Diamond emblem.

The plan is to have every used car inspected under supervision of the city or county traffic department before it is resold. Inspection would be made of brakes, running gear, lights, steering rods, and wheel and chassis alignment.

A certificate would be issued with the bill of sale. Charge for this service would be $10; of this amount $1 would be for actual inspection and $4.50 each for the county and the state.

A. P. Copeland, president of the association, has already received acknowledgment of his plan from the governors of Virginia, Oregon, Pennsylvania, New Mexico, Idaho, Wisconsin, Massachusetts, Maryland, Indiana, Iowa, Louisiana, Ohio, New Hampshire, Illinois, Florida, California and Texas.

Some governors have sent the plan to the legislative files for consideration, and one governor is placing the plan with other material to be used in writing his next message to his legislature.

Purposes of the plan are threefold: to make highways safer through eliminating dangers from unsafe automobiles; to raise revenues; and to help unemployment.

Through inspection the plan would prevent unsafe cars from being driven on the highway, thus protecting other motorists, and also protecting the buyer of the used car in that he would have a certificate that it was in safe operating condition.

Skilled mechanics would be given employment to inspect used cars offered for sale. Mr. Copeland estimated that about 180 mechanics would be needed in Ohio, for instance.

The plan also is claimed to have an advantage for the automotive industry in that it would help the dealer sell used cars who now faces competition from vacant lots sales places that recondition cars by painting only. Parts manufacturers also would have a wider market for their products, as every car offered for resale would have to be in good working condition.

The plan is offered as a further check on stolen cars, as title could not be given without a certificate of inspection.

In addition to presentation to state governors the plan has been suggested to local traffic commissioners, and to the automotive trade. Publicity has been given the plan in six cities by traffic commissioners.

Hybnickel

HEAT AND ACID RESISTING CASTINGS

Several hundred tons of Hybnickel are now in use in oil refinery stills and superheaters.

One of Our Main Products Is—
Heat-resisting supports for Oil Stills.

HYBNICKEL ALLOYS COMPANY
Successors to Victor Hybinette
c/o The Pusey and Jones Corporation
Wilmington, Delaware

Carbondale Refrigeration *for Refiners*

CARMACO

Send for a Copy of our Wax Plant Bulletin

Design of Complete Wax Plants—Absorption and Compression Refrigerating Machines—Wax Distillate Chilling Machines—High Pressure Filter Presses—Paraffine Wax Sweaters—Heat Exchangers and other Refinery Equipment.

CARBONDALE MACHINE COMPANY, CARBONDALE, PA.
SALES OFFICES
New York Los Angeles Buffalo Chicago Pittsburgh Tulsa Kansas City Philadelphia Boston

THE "Ace" TIRE VULCANIZER

and

Thermo-Flex SPOTTER

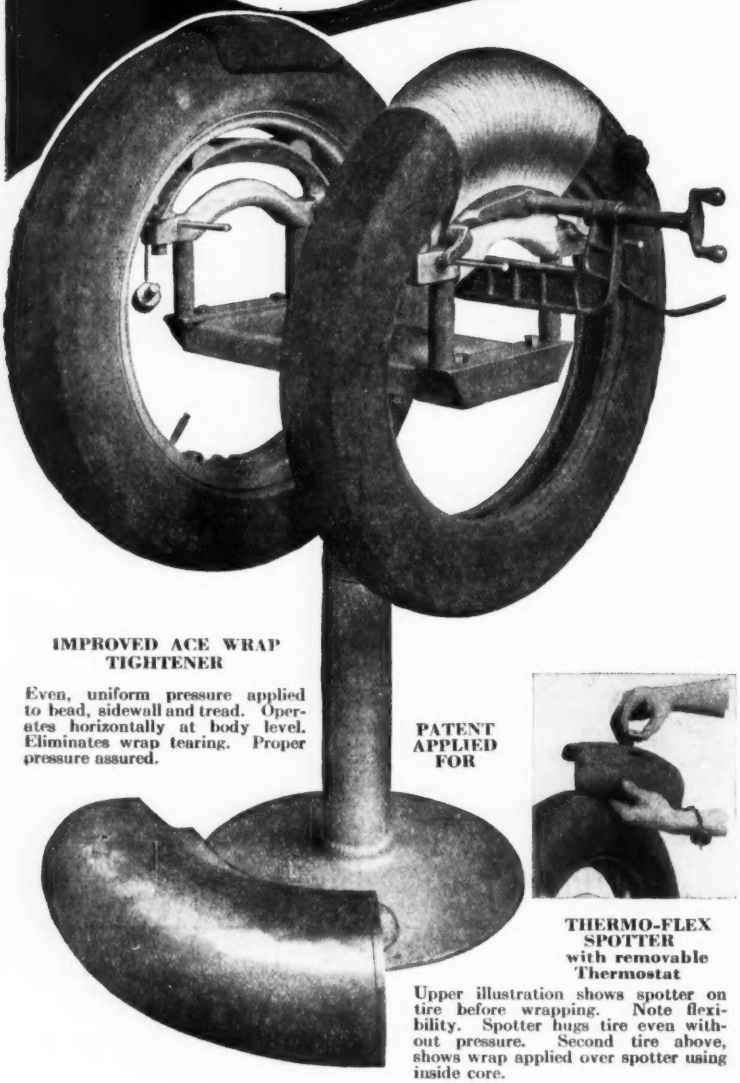
offer

THREE NEW ACHIEVEMENTS!

1–A better repair

2–For less cost

3–With a smaller investment



IMPROVED ACE WRAP TIGHTENER

Even, uniform pressure applied to bead, sidewall and tread. Operates horizontally at body level. Eliminates wrap tearing. Proper pressure assured.

PATENT APPLIED FOR

THERMO-FLEX SPOTTER with removable Thermostat

Upper illustration shows spotter on tire before wrapping. Note flexibility. Spotter hugs tire even without pressure. Second tire above, shows wrap applied over spotter using inside core.

The Ace Vulcanizer with the *Thermo-Flex* Spotter does a *better repair* because it fits the tire perfectly. It gives more pressure exactly where desired and generates the right heat, controlled by highly sensitive, accurate thermostats.

It costs less to make this *better repair* because less time is required to apply the tire. Uses less current (less than a nickel's worth of current for the largest truck tire, at a 6c K.W. rate). Eliminates failures in curing. Occupies less than 4 square feet of floor space. Handles all tire sizes on removable inside cores.

Thermo-Flex SPOTTER

Cures tread and sidewall cuts without even removing the tire from the customer's rim.

Only four *Thermo-Flex* Spotters to handle *any repair* in any *size tire.* Notice in the illustration how the spotter fits the tire like a glove, even before pressure is applied. *Thermo-Flex Spotters may be used with your present arm core equipment, and may be purchased separately.*

AND . . . this equipment, which offers all these advantages, which makes better repairs at less cost, is yours on a smaller investment than ever offered before. Write today for full particulars.

THE GEWERT MANUFACTURING CO.

Department N. P. N., READING, OHIO

Refinery - Tank Wagon Markets

Gasoline Demand Drops to Winter Levels in Most Markets

CLEVELAND, Nov. 30

EXCEPT on the eastern seaboard, gasoline markets were quiet during the last week of November, slipping into the usual winter level of reduced activity.

Improvement in eastern markets followed announcement of a 1-cent advance in retail gasoline prices in Pennsylvania and Delaware posted by the Atlantic Refining Co. The better condition of the Philadelphia district market was reflected also in New York harbor and at Baltimore. Price wars which had been raging in some parts of New York appeared about to come to a close as the month ended.

In the Mid-Continent a number of refiners were busy dumping surplus low anti-knock gasoline part of last week. As the week closed these refiners appeared to have been relieved of the pressure of their stock surplus and marked up their quotations 0.125 cent per gallon, more nearly in line with the general market.

East Coast gasoline buyers appeared more interested in 65 octane number California gasoline as prices for it were more nearly in line with the Gulf. No cargo sales for Intercostal shipment were reported, however.

At the Gulf export grades of gasoline were held firmly at 5 cents per gallon in the face of lower quotations by Roumanian refiners. As a result foreign interest in the market subsided.

Colder weather has aided burning oil markets in most sections of the country. In California Independent stocks of gas oil were cleaned out by the cold wave which kept citrus growers smudging their orchards. Furnace oils were active also along the north Atlantic coast and Mid-Continent markets were being searched for zero cold test gas oils. Some refiners have been leaving the kerosine in their gas oil to lower the cold test and make a better furnace oil. This has had the effect of keeping kerosine markets in good shape.

Heavy fuel oils for industrial purposes were unchanged in most markets.

Both cylinder stocks and neutral oils were quoted considerably lower in Pennsylvania. Distress offerings of Pennsylvania bright stock were made at concessions of 1 to 3 cents per gallon. In the Mid-Continent lubricants were quiet but refiners had not changed their list prices although they were watching the course of the Pennsylvania market carefully. Wax markets were dull.

Gasoline Buying Light in Chicago Market

Staff Special

CHICAGO, Nov. 28

THE Chicago market passed through the last week of November quietly, with business mostly of a routine nature and light oil prices showing further recessions.

Gasoline buying, by both spot and contract customers, was light all week. This dullness was attributed mostly to adverse weather, reluctance to buy due to approaching inventory time, and the feeling that gasoline prices might go lower.

Gasoline prices moved downward gradually during the week and were 0.25 cent lower on most grades by Nov. 28. Generally speaking, the grades with the lowest octane ratings were off more in price than higher rated grades. Several carlot marketers reported they had had numerous chances to buy U. S. Motor with a fairly low octane rating, but that the premium grades were much more closely held and there seemed to be no distress goods available of that type.

Sales prices of U. S. Motor, below 57 octane number, generally ranged from 3.875 to 4.125 cents Nov. 28, compared to 4.125 to 4.375 cents Nov. 23. Most of the gasoline moving at these prices was originating in Oklahoma, Texas, Illinois and Indiana. Some U. S. Motor for shipment from refineries in Pennsylvania and West Virginia was reported moved to Indiana and Michigan points at around 3.5 cents, Group 3 basis. The bulk of this gasoline was reported to have a relatively low octane rating.

High gravity gasolines were more freely offered than for some time past and prices moved downward in most quarters. Straight run 68-70, 350-360 e.p. still was reported comparatively scarce, but the softening in the natural gasoline market has thrown more blended material on the high test market.

The kerosine market remained passive. Demand was not good enough to move prices higher. The comparatively warm winter weather has kept distillate prices also unchanged. On the other hand, there appeared to be no oversupply of good kerosine, due, traders reported, to refiners not treating their kerosine and selling it as distillate.

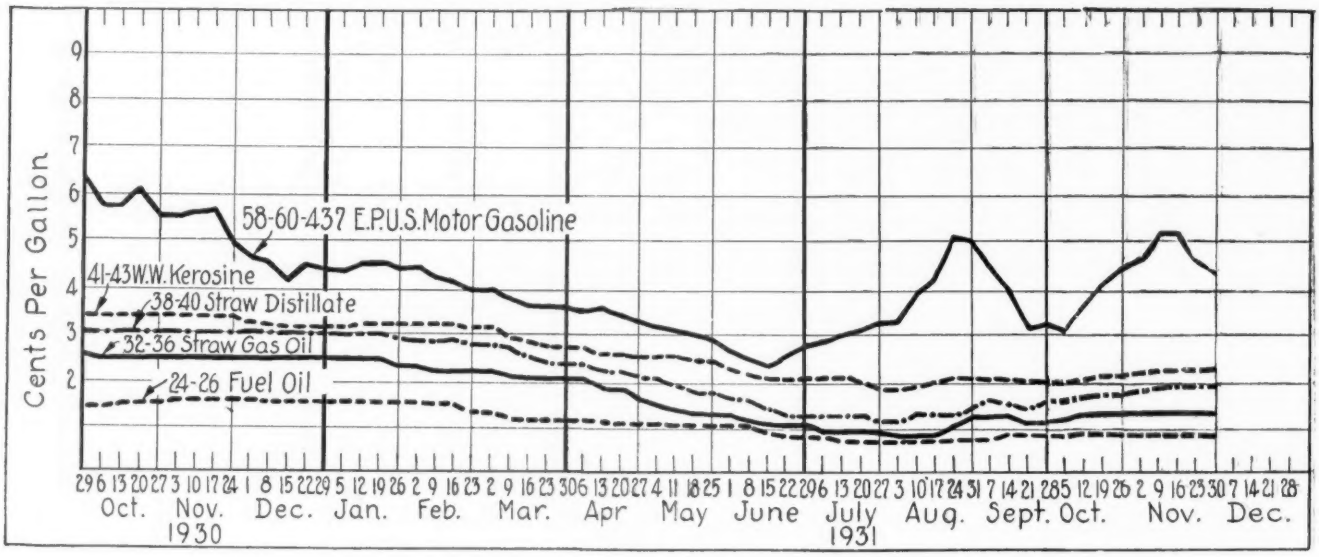
Little change was apparent in gas and fuel oils, although a better contract demand was reported for the former product. Some distress fuel oil was making its appearance in the Chicago district, but prices for general shipment remained about unchanged.

Summary of Group 3 Quotations for U. S. Motor Gasoline
In Effect Nov. 30, 1931

	Below 57 Octane No.	57-65 Octane No.	Above 65 Octane No.
Okla.	4.00-4.25	4.25-4.50	4.50-4.75
Kans.	4.00-4.25	4.25-4.50	4.50-4.75
N. Tex.	3.875-4.125	4.125-4.375	4.375-4.625
W. Tex.	3.875-4.125	4.125-4.375	4.375-4.625
La.-Ark.	4.25	4.50	4.75
Ind.-Ill.	3.875-4.125	.....	.....

Prices are those quoted on the basis of f.o.b. Group 3 by refiners in the districts designated.

Current Prices of Principal Mid-Continent Refined Products



Prices shown are in Group 3 basis and extended to date shown in Refinery Market Table Section of this issue

Mid-Continent Refinery Markets

Gasolines Improve After Dull Week

Staff Special
TULSA, Nov. 28

SIGNS of new life were exhibited by the Mid-Continent refinery market Nov. 28 after a week of steadily declining prices.

At least two of the refiners who had set the downward pace, announced they had moved the surplus gasoline which had been bothering them, and advanced quotations 0.125 cent above their previous listings. At the same time several other refiners announced further curtailment in crude runs to keep production more nearly even with the current demand. Two or three other refiners announced their plants would be shut down for a short time or had cut runs enough to work off surplus gasoline stocks.

This tended to give the market generally a better undertone after the steady decline in prices started late the previous week when a few refiners found production outdistancing their current shipments and accordingly began to lower quotations in order to move the gasoline as quickly as possible. A majority of refiners did not lower their quotations in competition with these refiners with the result a wide spread in prices existed most of the week. The low point was reached Nov. 27 when some U. S. Motor, below 57 octane number, was moved at 3.75 cents a gallon, Group 3 freight basis. This gasoline was small in volume, however, and Nov. 28 quotations generally were back to 4 cents in Oklahoma and 3.875 cents in north Texas, with 4 to 4.25 cents generally quoted in other areas on a Group 3 basis.

Jobber buying throughout the week was comparatively light in the open market, although contract movement was reported good considering the weather over much of the middle west.

Higher gravity gasoline experienced some increase in demand but not enough to prevent prices from moving downward in sympathy with U. S. Motor.

Natural gasolines dropped into the usual month end buying lull and prices dropped as a few manufacturers sought to move their production prior to the first of the month. Grade AA on Nov. 28 was moving mostly at 3.375 to 3,625 cents a gallon.

Cooler weather has caused the appearance of some lower grades on the market the last few days at prices below Grade AA. Most of the lower grade gasolines run Grade BB, with very little Grade C available at present.

There has been some off specification gasoline hawked at various times from districts outside usual market groups.

Manufacturers generally were eagerly awaiting some move by the Standard Oil Co. of Indiana with reference to natural gasoline requirements for December. That company recently has been the most consistent buyer in the market and the trend of next month's market will depend to some extent on its activity.

Kerosines experienced no changes either in demand or price in the short business week. A majority of sellers said orders were mostly of a routine nature and no large buying was reported in any district although previously one or two export inquiries had been reported.

Distillates moved comparatively well on contract but little spot buying was

Prices A Year Ago

Dec. 1, 1930

	Oklahoma	Penna.
58-60 U. S. Motor Gasoline	4.50-5.00	6.50-6.75
Grade A Natural Gasoline	4.25-4.50	.....
Kerosine (Okla. 41-43; Pa. 47 w. w.)	3.125-3.25	5.25-5.75
Fuel Oil (Okla. 24-26; Pa. 36-40)	$0.65-$0.70	3.375-3.75
Crude (Okla. 35-35.9)	$0.92	$1.85
Chicago tank wagon (including 3c tax)		16.00c

reported. Prices were firmly entrenched at present levels.

Zero gas oils were more actively sought but with little success as far as Oklahoma and north Texas were concerned. Buyers continued to look mostly to Louisiana and Arkansas for this material.

Ordinary grades of gas oil were more freely offered at generally unchanged prices.

Fuel oils were quiet in most quarters with only slight changes in prices reported.

No changes were announced in neutral oil or cylinder stocks prices but refiners for the most part reported demand exceedingly light. The Pennsylvania markets were being closely watched.

Wax quotations were slightly higher in a few quarters but generally speaking prices showed little change over the previous week.

Navy Awards Fuel Contracts

WASHINGTON, Nov. 30.—The Navy Department has awarded contracts for 1,209,200 barrels of bunker fuel oil Grade "A" and "B" for delivery at east coast ports during the first half of 1932 at an approximate cost of $858,854. Bids for this oil were opened in the Navy Department on Nov. 13. Awards were made as follows:

	Bbls.	(Estimated Totals)
Magnolia Petroleum Co.	594,000	$323,800
Warner Quinlan Co.	278,500	249,835
Gulf Refining Co.	110,000	74,450
Standard Oil Co. of N. Y.	50,000	58,700
Continental Oil Co.	800	1,344
Tide Water Oil Co.	35,000	32,500
Standard Oil Co. of N. J.	25,000	11,250
Atlantic Refining Co.	115,900	106,975

More Roumanian Gasoline For Detroit Company

NEW YORK, Nov. 30.—The tanker Arcola laden with 80,000 barrels of Roumanian gasoline was scheduled to arrive Tuesday at the Baltimore terminal of the Seaboard Midland Petroleum Corp.

The gasoline is to be reshipped in tank cars to the Sunny Service Oil Co. at Detroit. This company recently received a cargo of Roumanian gasoline through the Great Lakes.

Cost price of the Roumanian gasoline to Sunny Service will be approximately 7.26 cents per gallon at Detroit. This consists of a 4.7-cent price for the gasoline delivered at Baltimore, terminal charges of about 0.25 cent and freight to Detroit of 2.31 cents per gallon. Earlier rumors that the delivered price would be 3.5 cents per gallon at Baltimore were denied by Sunny Service.

September Tax Reports Show 1.5% Gasoline Demand Increase

NEW YORK, Nov. 30

TAXED gasoline demand was 1.5 per cent greater in September than in September, 1930, according to state reports compiled by the American Petroleum Institute.

Daily average demand in 47 states and the District of Columbia in September was 45,506,000 gallons. In August the average demand was 49,280,000 gallons.

For the nine months ended September this year, demand was 11,307,616,000 gallons, nearly 500,000,000 gallons higher, or 4.6 per cent, than in the corresponding period of 1930.

The largest decrease in gallonage in September, 1931, was in Montana, which showed a 40.5 per cent decrease under September a year ago. The largest gain of 22.6 per cent was in Pennsylvania. Tourist travel during the summer months declined even in California, which showed a decline of 2.7 per cent in the quarter ended Sept. 30, 1931, from a similar period ended 1930.

Gasoline Consumption by States, September, 1931

(Figures in thousands of gallons)

	Month of September, 1931	Month of September, 1930	% Change 1931 over 1930	9 Months Ended With September, 1931	9 Months Ended With September, 1930	% Change 1931 over 1930
Alabama	13,803	14,675	— 5.94	123,820	131,203	— 5.63
Arizona	6,151	6,276	— 1.99	56,441	57,099	— 1.15
Arkansas	13,576	12,765	+ 6.35	97,645	105,616	— 7.55
Colorado	15,078	16,693	— 9.67	138,697	132,644	+ 4.56
Connecticut	22,152	20,642	+ 7.31	167,145	168,149	— 0.60
Delaware	3,712	3,361	+10.44	28,757	27,449	+ 4.76
District of Columbia	8,126	6,946	+16.99	69,180	59,920	+15.45
Florida	16,557	16,348	+ 1.28	174,724	160,363	+ 8.95
Georgia	18,544	19,808	— 6.38	166,228	169,129	— 1.71
Idaho	6,152	6,789	— 9.38	46,037	46,897	— 1.83
Illinois	95,183	91,146	+ 4.43	767,033	731,540	+ 4.85
Indiana	44,205	42,647	+ 3.65	366,881	346,253	+ 5.96
Iowa	33,790	37,572	—10.07	319,426	297,253	+ 7.46
Kansas	31,074	36,039	—13.78	322,553	304,229	+ 6.02
Kentucky	16,432	15,624	+ 5.17	131,988	126,257	+ 4.54
Louisiana	16,804	15,960	+ 5.29	139,869	137,444	+ 1.76
Maine	13,168	12,670	+ 3.93	87,993	81,861	+ 7.49
Maryland	18,169	17,399	+ 4.42	141,182	136,932	+ 3.10
Massachusetts	53,832	50,390	+ 5.94	426,791	402,249	+ 6.10
Michigan	69,469	73,776	— 5.84	606,949	601,757	+ 0.86
Minnesota	38,761	41,211	— 5.94	339,586	304,960	+11.35
Mississippi	(a)11,042	12,319	—10.37	(a)99,053	102,135	— 3.02
Missouri	43,249	40,732	+ 3.72	362,727	330,514	+ 9.75
Montana	6,239	10,486	—40.50	60,314	59,553	+ 1.28
Nebraska	18,976	21,231	—10.62	177,864	174,183	+ 2.11
Nevada	2,173	1,889	+15.03	17,947	14,217	+26.24
New Hampshire	7,505	6,998	+ 7.24	51,926	49,723	+ 4.43
New Jersey	53,773	50,050	+ 7.44	433,686	410,498	+ 5.65
New Mexico	4,551	5,154	—11.70	40,215	40,903	— 1.68
New York	154,946	142,343	+ 8.85	1,221,413	1,140,858	+ 7.06
North Carolina	23,814	22,806	+ 4.42	177,567	183,781	— 3.38
North Dakota	10,229	14,290	—28.42	93,401	98,050	— 4.74
Ohio	87,171	81,084	+ 7.51	747,872	739,865	+ 1.08
Oklahoma	27,284	30,149	— 9.50	232,828	245,355	— 5.10
Oregon	15,948	16,779	— 4.95	135,776	131,310	+ 3.40
Pennsylvania	102,953	83,965	+22.61	785,657	661,269	+18.81
Rhode Island	8,905	8,268	+ 7.73	74,160	66,207	+12.01
South Carolina	10,730	10,724	+ 0.05	90,879	88,545	+ 2.63
South Dakota	10,780	14,862	—27.47	107,164	110,200	— 2.75
Tennessee	19,849	20,090	— 1.20	157,763	161,080	— 2.06
Texas	69,486	73,662	— 5.67	624,322	608,316	+ 2.63
Utah	5,364	5,464	— 1.83	47,254	46,678	+ 1.23
Vermont	5,614	5,334	+ 5.25	36,950	35,343	+ 4.55
Virginia	23,340	20,738	+12.55	180,409	169,709	+ 6.30
Washington	24,438	25,768	— 5.16	210,576	208,113	+ 1.18
West Virginia	14,891	14,600	+ 2.00	106,106	105,024	+ 1.03
Wisconsin	43,429	42,898	+ 1.24	346,866	332,208	+ 4.41
Wyoming	3,774	3,690	+ 2.28	30,996	28,359	+ 9.30
Total	1,365,191	1,345,108	+ 1.49	11,370,616	10,871,200	+ 4.59
Daily Average	45,506	44,837	+ 1.49	41,651	39,821	+ 4.59
Increase over previous year:						
Amount of Increase	20,083			499,416		
Percentage Increase in Daily Average	1.5%			4.6%		

	Quarter Ended Sept. 30, 1931	Quarter Ended Sept. 30, 1930		9 Months Ended With Sept. 30, 1931	9 Months Ended With Sept. 30, 1930	
California	347,437	357,199	— 2.73	1,072,954	999,416	+ 7.36

(a) Estimated.

Chicago Tank Car Market

Staff Special

CHICAGO, Nov. 28

BOTH spot and contract buying was rather light in the Chicago market last week. Gasoline prices were lower in most quarters, with the reductions greater on the below 57 octane gasolines than on the premium products. U. S. Motor, below 57 octane, was generally offered at 3.875 to 4.125 cents on Nov. 28.

Some Motor was offered for shipment from Pennsylvania and West Virginia refineries to points in Indiana and Michigan at around 3.5 cents f.o.b. Group 3. Kerosines and distillates were quiet at unchanged prices. Gas oils were steady. Several grades of fuel oils moved at lower prices, mostly for shipment in the Chicago district.

Following prices represent majority of sales to jobbers on Group 3 freight basis, although shipments may originate in other refining districts such as North, West and East Texas, Louisiana, Arkansas, Indiana, Illinois, Kentucky, etc.

	Prices Nov. 30	Prices Nov. 23	Prices Nov. 16
50-52, 437 e.p. naphtha	3.375– 3.50	3.75 – 3.875	3.75 – 3.875
U. S. Motor Gasoline:			
Below 57 octane number	3.75 – 4.00	4.125– 4.375	4.375– 4.625
57-65 octane number	4.00 – 4.25	4.375– 4.625	4.625– 4.875
Above 65 octane number	4.375– 4.875	4.75 – 5.00	5.00 – 5.25
60-62, 437 e.p. gasoline	3.875– 4.125	4.25 – 4.50	4.50 – 4.75
60-62 400 e.p. gasoline	4.125– 4.375	4.375– 4.625	4.625– 4.875
64-66 375 e.p. gasoline	4.75 – 5.00	4.875– 5.125	5.00 – 5.25
68-70 350-360 e.p. gasoline	4.875– 5.125	5.125– 5.375	5.375– 5.625
*Domestic Aviation Gasoline	5.625– 5.75	5.75 – 6.00	5.75 – 6.00
41-43 w.w. kerosine	2.125– 2.25	2.125– 2.25	2.125– 2.25
42-44 w.w. kerosine	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
38-40 p. w. distillate	1.875– 2.00	1.875– 2.00	1.875– 2.00
38-40 straw distillate	1.75 – 1.875	1.75 – 1.875	1.75 – 1.875
32-36 ordinary dark gas oil	1.25 – 1.375	1.25 – 1.375	1.25 – 1.375
32-36 dark zero gas oil	1.50 – 1.625	1.50 – 1.625	1.50 – 1.625
32-36 straw zero gas oil	1.625– 1.75	1.625– 1.75	1.625– 1.75
28-30 zero fuel oil (per bbl.)	$0.50 –$0.525	$0.475–$0.525	$0.475–$0.525
28-30 fuel oil (per bbl.)	$0.40 –$0.425	$0.40 –$0.425	$0.40 –$0.425
24-26 fuel oil (per bbl.)	$0.30 –$0.325	$0.30 –$0.325	$0.30 –$0.325
18-22 fuel oil, (per bbl.)	$0.225–$0.25	$0.225–$0.25	$0.225–$0.25
18-22 zero fuel oil (per bbl.)	$0.25 –$0.30	$0.275–$0.30	$0.275–$0.325
14-16 fuel oil (per bbl.)	$0.175–$0.225	$0.20 –$0.25	$0.20 –$0.25

*Prices are based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167° F., and not less than 122° F.; 50% recovery at 221°; 90% at 311°; 96% at 347°; end point 374° F. Gasoline of fighting grade specifications in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

†Nominal.

St. Louis Compounder Makes 1931 Best Year in History

ST. LOUIS, Nov. 30

NINETEEN THIRTY-ONE will be the best year in the history of the Columbia Oil Co., grease compounder and motor oil blender, here.

Profits will be greater than in any previous year, incomes of all employes were unchanged, no one was discharged, prices have been steady, and improvements have been made in the company's plant.

In the belief that it is wise to buy on a falling market, and in depression years to build for the future, E. J. Keitel, president of the company, made the most of 1931 opportunities.

For some time Mr. Keitel had been studying means to improve the barrel washing department of his plant. Twice bids were taken for construction of a third floor on his two-story compounding plant.

The third bid, taken early this year, was 30 per cent under previous offers, so he helped St. Louis unemployment by adding the third floor at a cost of about $9000. An additional $6000 was spent for equipment.

Purchases of raw materials were expanded, also, to take advantage of attractive prices on a falling market. This policy will add a substantial amount to the company's profits for the year.

The unemployment situation was turned to good advantage by Mr. Keitel, and he added valuable timber to his sales force.

With his 15 representatives as a basis, additional salesmen were employed, until the force today totals 22 men. As other business houses were discharging salesmen Mr. Keitel carefully selected the best and put them to work.

Incomes of salesmen, and other employes, were unchanged. Expense accounts were expected to be as large as usual. The men were to spend as much as ever for hotel rooms and food.

With this background the salesman was to radiate confidence. He was to be at least one representative calling on wholesalers who did not talk depression or how bad sales were.

Prices to the trade were unchanged. Salesmen told prospective buyers that costs of raw material did not constitute a major portion of the ultimate price. And by the company keeping its prices there would be no need to lay off employes, and to add to the burden of unemployment.

"In years to come," said Mr. Keitel, "I can tell my children that the bleak depression year of 1931 was the best year since I stepped into the business in 1910, and that here is proof that it is wise to be the optimist when the business world is pessimistic."

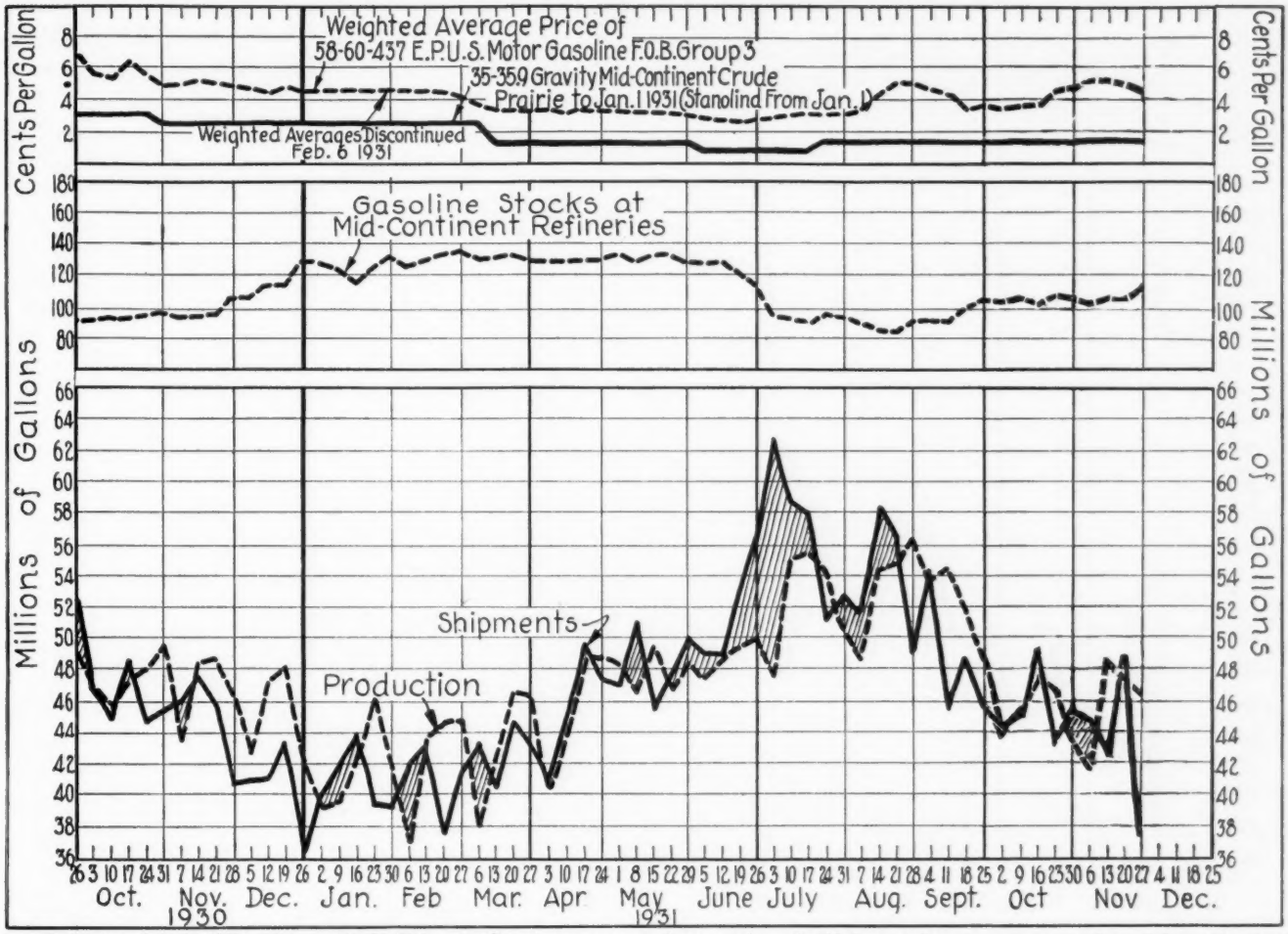
May Boost New York Gas Tax

NEW YORK, Nov. 30.—An increase of from 1 to 2 cents per gallon in the New York state gasoline tax may be proposed to the next legislature by the Commission to Revise Tax Laws which is now at work. Automobile owners also may be asked to pay higher registration fees.

The 2-cent tax now in force yielded $30,000,000 in the last fiscal year and registration fees brought in $46,000,000. It is estimated that all highway expenses in the state totaled $262,000,000 during the year.

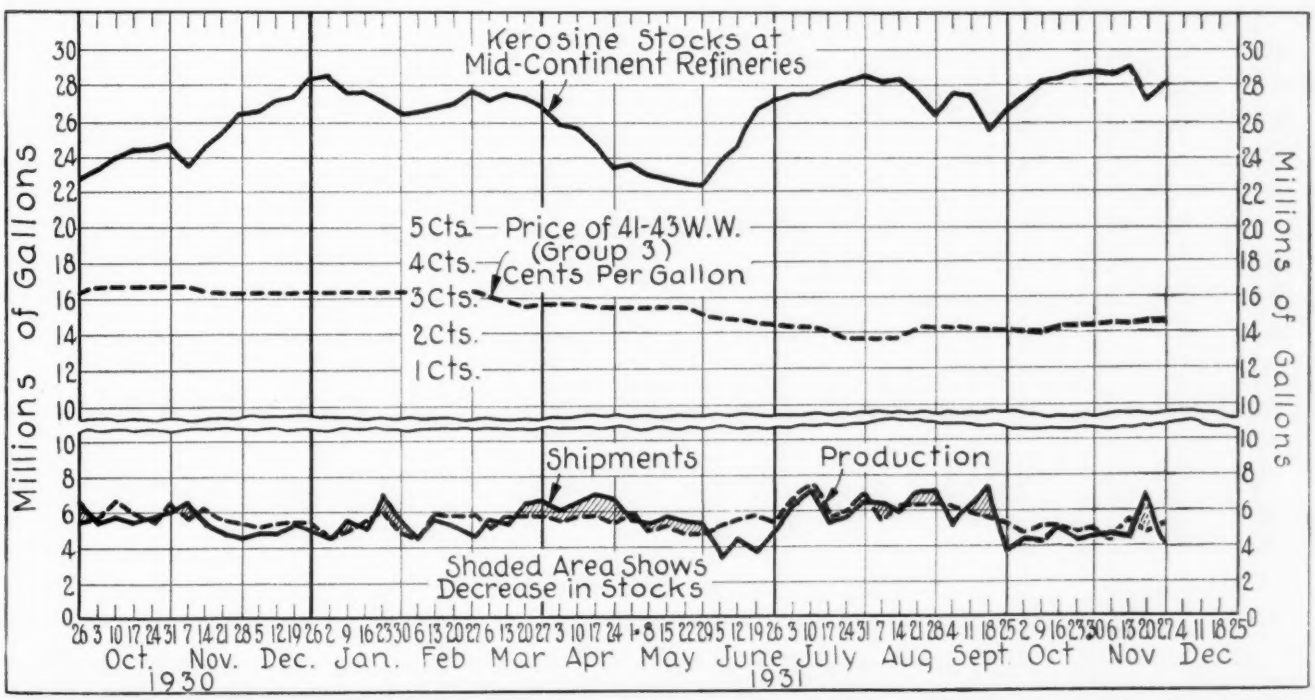
Barometer of Mid-Continent Refinery Market—Week Ending November 27

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Weighted Average Price of
58-60-437 E.P.U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude
Prairie to Jan. 1 1931 (Stanolind From Jan. 1)
Weighted Averages Discontinued Feb. 6 1931
Cents Per Gallon
Gasoline Stocks at
Mid-Continent Refineries
Millions of Gallons
Shipments
Production
Oct. Nov. Dec. Jan. Feb Mar. Apr May June July Aug. Sept. Oct Nov Dec.
1930
1931

Beginning Oct. 9, 1931, price on U. S. Motor gasoline is average of three grades, classified according to octane number: below 57 octane number, 57-65 octane, and above 65 octane number.

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 66



Beginning Oct. 12, 1931, price on U. S. Motor gasoline is average of three grades, classified according to octane number: below 57 octane number, 57-65 octane, and above 65 octane number.

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted.

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

OKLAHOMA (F. o. b. Oklahoma refineries)

	Prices Nov. 30	Prices Nov. 23	Prices Nov. 16
50-52 450 e.p. naphtha...	†3.75	†3.75 – 4.00	†3.75 – 4.00
U. S. Motor Gasoline			
Below 57 octane number	4.00 – 4.25	4.25 – 4.75	4.75 – 5.00
57-65 Octane number....	4.25 – 4.50	4.50 – 5.00	5.00 – 5.25
Above 65 Octane number	4.50 – 4.75	†4.75 – 5.25	†5.25 – 5.50
60-62, 400 E.P. Gasoline			
Below 57 Octane number	4.25 – 4.50	4.50 – 5.00	5.00 – 5.25
57-65 Octane number....	4.50 – 4.75	4.75 – 5.25	5.25 – 5.50
Above 65 Octane number.	4.75 – 5.00	5.00 – 5.50	5.50 – 5.75
64-66, 375 E.P. Gasoline			
Below 57 Octane number	4.50 – 4.75	4.75 – 5.25	5.125– 5.25
57-65 Octane number....	4.75 – 5.00	5.00 – 5.25	5.25 – 5.375
Above 65 Octane number	5.00 – 5.25	†5.25 – 5.50	†5.375– 5.625
68-70 350-360 e.p. gasoline	†5.00 – 5.25	†5.50	†5.50 – 5.75
‡Domestic Aviation Gasoline.....	†5.625– 5.75	†6.00 – 6.375	†6.00 – 6.375

‡Prices based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167° F., and not less than 122° F., 50% rec. at 221°; 90% at 311°; 96% at 347°; end point, 374° F. Fighting grade in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

52-54 Naphtha.....	4.125– 4.25	4.125– 4.25	4.00 – 4.25
54-56 Naphtha.....	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
58-60 U.S. Motor 437 e.p.	4.625– 5.00	4.50 – 5.00	4.50 – 4.75
60-62 400-410 e.p. gasoline	4.75 – 5.00	4.625– 5.00	4.625– 5.00
64-66 390 e.p. gasoline...	4.875– 5.25	4.875– 5.25	4.875– 5.125
68-70 350-360 e.p.....	5.625– 6.00	5.625– 6.00	5.625– 6.00

OHIO (Quotations of S. O. Ohio. 4c state tax to be added. Delivered any point in Ohio.)

U. S. Motor Gasoline....	8.25	8.25	8.25
60-65 Octane number....	8.50	8.50	8.50

KANSAS (F. o. b. refinery, Kansas destination)

U. S. Motor Gasoline			
Below 57 Octane number	4.25 – 4.625	4.625– 4.875	5.00 – 5.25
57-65 Octane number....	4.50 – 4.875	4.875– 5.125	5.25 – 5.50
Above 65 Octane number	4.75 – 5.125	5.125– 5.375	5.50 – 5.75
60-62 400 e.p. gasoline....	4.625– 5.00	4.875– 5.125	5.125– 5.375
64-66 375 e.p. gasoline....	5.00 – 5.25	5.375	5.375– 5.50

NORTH TEXAS (F. o. b. North Texas refineries)

56-58 450 e.p. gasoline...	†3.625	†4.00	†4.25 – 4.375
58-60 450 e.p. gasoline...	†3.625	†4.00	†4.25 – 4.375
U. S. Motor Gasoline			
Below 57 Octane number	3.875– 4.125	4.25 – 4.50	4.625– 4.75
57-65 Octane number....	4.125– 4.375	4.50 – 4.75	4.875– 5.00
Above 65 Octane number	4.375– 4.625	4.75 – 5.00	5.125– 5.25
60-62 400 e.p. gasoline...	4.25 – 4.50	4.50 – 4.75	4.875– 5.00
64-66 390 e.p. gasoline...	4.50	4.625– 4.75	4.875– 5.125
64-66 375 e.p. gasoline...	4.50 – 4.75	4.75 – 5.00	5.00 – 5.25
68-70 350-360 e.p. gasoline	5.00	5.00 – 5.25	5.375– 5.50

****WEST TEXAS** (F. o. b. West Texas refinery, for unrestricted shipment)

U. S. Motor Gasoline			
Below 57 Octane number	3.875– 4.125	4.25 – 4.50	4.50 – 4.75
57-65 Octane number....	4.125– 4.375	4.50 – 4.75	4.75 – 5.00
Above 65 Octane number	4.375– 4.625	4.75 – 5.00	5.00 – 5.25

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

U. S. Motor Gasoline			
Below 57 Octane number	4.50	5.00	5.00
57-65 Octane number....	4.75	†5.25	†5.25
Above 65 Octane number	5.00	†5.50	†5.50

ARKANSAS (Ark., N. La., and Miss. destination)

U. S. Motor Gasoline			
Below 57 Octane number	4.50	5.00	5.00
57-65 Octane number....	4.75	†5.25	†5.25
Above 65 Octane number	5.00	†5.50	†5.50

CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)

54-58 U.S. Motor 437 e.p.	7.25 – 8.50	6.00 – 8.50	5.75 – 8.50
54-58 U.S. Motor, for outside state shipment....	6.50 – 7.50	5.75 – 6.50	5.75 – 6.50
58-61 375-400 e.p. gasoline	9.50 –10.50	9.50 –10.50	9.50 –10.50
42-45 Engine Distillate 445-480 e.p.....	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00

†Prices Nominal. ††Only one refiner quoting. *Quotations only.

NATURAL GASOLINE

End point of all grades, not over 375F.

OKLAHOMA (F. o. b. Group 3)

	Prices Nov. 30	Prices Nov. 23	Prices Nov. 16
Grade AA, 80-87.9, 90% Recovery.....	3.25 – 3.375	3.875– 4.125	4.375– 4.50
Grade A, 72-79.9, 90% Recovery.....	†3.75	†4.375– 4.625	†4.75 – 4.875
Grade BB, 84-92, 85% Recovery.....	†3.125	†3.75	†4.25
Grade B, 76-83.9, 85% Recovery.....	†3.125	†3.75	†4.25
Grade C, 80-92, 78% Recovery.....	†3.125	†3.75	†4.25
Grade 26-70.....	3.25 – 3.375	3.875– 4.125	4.375– 4.50

NORTH TEXAS (F. o. b. Breckenridge)

Grade AA, 80-87.9, 90% Recovery.....	3.00 – 3.25	3.75 – 4.00	4.125– 4.25
Grade A, 72-79.9, 90% Recovery.....	†3.50	†4.125	†4.50
Grade BB, 84-92, 85% Recovery.....	†3.00	†3.75	†4.125
Grade B, 76-83.9, 85% Recovery.....	†3.00	†3.75	†4.125
Grade C, 80-92, 78% Recovery.....	†3.00	†3.75	†4.125
Grade 26-70.....	3.00 – 3.25	3.75 – 4.00	4.125– 4.25

NORTH LOUISIANA (F. o. b. Monroe District)

Grade AA.....	†3.375	†3.875– 4.125	†4.50
Grade BB.....	†3.25	†3.75	†4.50
Grade C.....	†3.25	†3.75	†4.50

CALIFORNIA (F. o. b. California refineries)

75-85, 375-390 e.p. for blending.....	5.50 – 6.00	5.25 – 6.00	5.75 – 6.25

BURNING OILS

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

45 w.w. kerosine.....	3.875– 4.00	3.875– 4.00	3.75 – 3.875
46 w.w. kerosine.....	4.00 – 4.25	4.00 – 4.25	3.875– 4.00
47 w.w. kerosine.....	4.125– 4.50	4.125– 4.50	4.00 – 4.25

OKLAHOMA (F. o. b. Oklahoma refineries)

41-43 w.w. kerosine.....	2.25 – 2.375	2.25 – 2.375	2.125– 2.375
42-44 w.w. kerosine.....	2.375	2.375	2.25 – 2.375

KANSAS (F. o. b. refinery Kansas destination)

41-43 w.w. kerosine.....	2.50 – 2.625	2.50 – 2.75	2.50 – 2.75
42-44 w.w. kerosine.....	2.625– 2.75	2.625– 2.875	2.625– 2.875

NORTH TEXAS (F. o. b. North Texas refineries)

40-42 w.w. kerosine.....	†2.125– 2.375	†2.125– 2.375	†2.125– 2.25
41-43 w.w. kerosine.....	†2.25 – 2.50	†2.25 – 2.50	†2.25 – 2.375

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosine.....	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25

ARKANSAS (Ark., N. La. and Miss. destination)

41-43 w.w. kerosine.....	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25

CALIFORNIA (F. o. b. California refineries)

38-40 w.w. kerosine.....	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00

NEUTRAL OIL

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

Vis.	(Viscosity at 70° F.)		
200 No. 3 color, 420-425 flash.....	20.50 –21.00	20.50 –21.00	21.00 –21.50
180 No. 3 color, 410-415 flash.....	18.50 –19.00	18.50 –19.00	19.50
150 No. 3 color, 400-405 flash.....	16.00 –16.50	16.00 –17.00	17.00

Note: Refiners quote 4 to 6c higher for 0 to 10 pour test oils; 3 to 5c higher for 10 to 15 pour test oils than prices shown above on this date.

****Prices represent quotations and sales**

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted.

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

****MID-CONTINENT** (F. o. b. Mid-Continent refineries)

Vis.	Color	Prices Nov. 30 (Viscosity at 100° F.) 0 to 10 Pour Point	15 to 30 Pour Point	Prices Nov. 23 0 to 10 Pour Point	15 to 30 Pour Point
100	No. 2	4.75	4.00	4.75	4.00
150	No. 3	7.00 – 7.25	6.75	7.00 – 7.25	6.75
150	No. 4	6.75	6.25	6.75	6.25
180	No. 3	8.25 – 8.75	8.25	8.25 – 8.75	8.25
180	No. 4	8.25	8.00	8.25	8.00
180	No. 5	7.50	7.00	7.50	7.00
200	No. 3	9.50 –10.00	9.00 – 9.25	9.50 –10.00	9.00 – 9.25
200	No. 4	9.25 – 9.50	9.00	9.25 – 9.50	9.00
200	No. 5	9.00 – 9.25	8.50	9.00 – 9.25	8.50
220	No. 3	9.75	9.50	9.75	9.50
220	No. 4	9.50	9.00	9.50	9.00
220	No. 5	9.25	8.75	9.25	8.75
240	No. 3	11.00 –11.50	11.00	11.00 –11.50	11.00
240	No. 4	10.75	10.25	10.75	10.25
240	No. 5	10.50	10.00	10.50	10.00
280	No. 3	13.00	12.50	13.00	12.50
280	No. 4	12.00	11.50	12.00	11.50
280	No. 5	11.75	11.25	11.75	11.25

GULF COASTAL (F. o. b. Gulf Coastal refineries)

Vis.	Color	Prices Nov. 30 (Viscosity at 100° F., pour test 0)	Prices Nov. 23	Prices Nov. 16
100	No. 2 Pale	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
200	No. 3 Pale	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
300	No. 3 Pale	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
500	No. 3½ Pale	9.25 – 9.50	9.25 – 9.50	9.25 – 9.50
750	No. 4 Pale	10.25 –10.50	10.25 –10.50	10.25 –10.50
1200	No. 4 Pale	12.25 –12.50	12.25 –12.50	12.25 –12.50
2000	No. 4-5 Pale	13.25 –13.50	13.25 –13.50	13.25 –13.50
200	No. 5½ Red Oil	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
300	No. 5½ Red Oil	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
500	No. 6 Red Oil	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
750	No. 6 Red Oil	9.25 – 9.50	9.25 – 9.50	9.25 – 9.50
1200	No. 5-6 Red Oil	11.25 –11.50	11.25 –11.50	11.25 –11.50
2000	No. 5 Plus Red Oil	13.25 –13.50	13.25 –13.50	13.25 –13.50

CALIFORNIA (F. o. b. California refineries)

Vis.	Color	(Viscosity at 100° F.)		
100	No. 3	8.00	8.00	8.00
200	No. 3	10.00	10.00	10.00
300	No. 3	10.50	10.50	10.50
450	No. 3	12.00	12.00	12.00
550	No. 3	13.50	13.50	13.50
600	No. 3	13.50	13.50	13.50
200	No. 5	10.00	10.00	10.00
300	No. 5	10.50	10.50	10.50
400	No. 5	12.00	12.00	12.00
500	No. 5	13.00	13.00	13.00
600	No. 5	13.50	13.50	13.50
700	No. 7	13.50	13.50	13.50

CYLINDER STOCKS

MID-CONTINENT (F. o. b. Mid-Continent refineries)
(Prices represent quotations and sales).

190-200 Vis. D at 210° Brt. St.	20.50 –22.00	20.50 –22.00	20.50 –22.00
150-160 Vis. D at 210° Brt. St.: 0-10 cold test	20.00 –20.50	20.00 –20.50	20.00 –20.50
10-25 cold test	19.50 –20.00	19.50 –20.00	19.50 –20.00
150-160 Vis. D Brt. Stock, 25-40 cold test	18.50 –19.00	18.50 –19.00	18.50 –19.00
150-160 Vis. E 210° Brt. St.	19.00	19.00	19.00
600 St. Ref. Olive Green	5.25 – 6.00	5.25 – 6.00	5.25 – 6.25
600 St. Ref. Dark Green	4.00 – 5.00	4.00 – 5.00	4.25 – 5.25
Black Oil	3.25 – 4.00	3.25 – 4.00	3.25 – 4.00

PENNSYLVANIA (F. o. b. Western Penna. refineries) (A.S.T.M. Tests)

600 Steam Refined, filterable	12.00 –13.00	12.25 –13.00	13.50 –14.00
650 Steam Refined	16.00 –16.50	16.00 –17.00	16.50 –17.50
600 Flash	17.00 –18.00	17.50 –18.50	18.00 –19.00
630 Flash	21.00 –23.00	21.00 –23.00	21.00 –23.00
600 Warren E	16.50 –17.00	16.75 –17.50	17.00 –18.00
Cold Test Stocks, 140-150 vis. at 210°, 540-550 flash, No. 8 color:			
20 pour test and below	22.00 –24.00	23.50 –25.00	25.00 –26.00
25 and 35 pour test	20.50 –22.00	22.00 –23.00	23.00 –24.00
40 pour test and above	20.00 –22.00	21.50 –22.50	23.00

WAX

PENNSYLVANIA (Per pound, F. o. b. New York)

122-124 white crude scale a.m.p.	2.125– 2.25	2.125– 2.25	2.00 – 2.125
124-126 white crude scale, a.m.p.	2.125– 2.25	2.125– 2.25	2.00 – 2.125

†Prices nominal ††Only one refiner quoting *Quotations only

****OKLAHOMA** (Per pound in barrels; in a few instances, per pound in burlap bags; F. o. b. Oklahoma refineries.)

	Prices Nov. 30	Prices Nov. 23	Prices Nov. 16
124-126 White Crude Scale, a.m.p.	1.75 – 1.875	1.75 – 1.875	1.75 – 1.875

DISTILLATE, GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

36-40 fuel oil	2.625– 3.00	2.625– 3.00	2.625– 3.00

OKLAHOMA (F. o. b. Oklahoma refineries)

38-40 straw distillate	1.875– 2.00	1.875– 2.00	1.875– 2.00
36-38 straw distillate	†1.75 – 1.875	†1.75 – 1.875	†1.75 – 1.875
32-36 straw gas oil	1.375– 1.50	1.375– 1.50	1.375– 1.50
32-36 straw gas oil zero	†1.75 – 1.875	†1.75 – 1.875	†1.75 – 1.875
32-36 dark gas oil	1.375– 1.50	1.375– 1.50	1.375– 1.50
32-36 dark gas oil zero	†1.75 – 1.875	†1.75 – 1.875	†1.75 – 1.875
28-30 zero fuel oil (per bbl.)	$0.525–$0.55	$0.525–$0.55	$0.525–$0.55
28-30 fuel oil (per bbl.)	$0.425–$0.45	$0.425–$0.45	$0.425–$0.45
26-28 fuel oil (per bbl.)	$0.375–$0.40	$0.375–$0.40	$0.375–$0.40
24-26 fuel oil (per bbl.)	$0.35 –$0.375	$0.35 –$0.375	$0.35 –$0.375
22-26 fuel oil (per bbl.)	$0.325–$0.35	$0.325–$0.35	$0.325–$0.35
18-22 fuel oil (per bbl.)	$0.30 –$0.325	$0.30 –$0.325	$0.30 –$0.325
16-20 fuel oil (per bbl.)	$0.275–$0.30	$0.275–$0.30	$0.275–$0.30
14-16 fuel oil (per bbl.)	$0.225–$0.25	$0.225–$0.25	$0.225–$0.25

KANSAS (F. o. b. refinery Kansas destination)

38-40 straw distillate	2.125– 2.25	2.125– 2.25	2.125– 2.25
36-38 straw distillate	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125
32-36 straw gas oil	1.875– 2.00	1.875– 2.00	1.875– 2.00
18-22 fuel oil (per bbl.)	$0.375–$0.475	$0.375–$0.475	$0.375–$0.475
10-14 fuel oil (per bbl.)	$0.325–$0.425	$0.325–$0.425	$0.325–$0.425

NORTH TEXAS (F. o. b. North Texas refineries)

38-40 straw distillate	†1.875– 2.00	†1.875– 2.00	†1.875– 2.00
38-40 p.w. treated distillate	†2.00 – 2.125	†2.00 – 2.125	†1.875– 2.125
32-36 gas oil, cracked	1.50 – 1.75	1.50 – 1.75	1.50 – 1.625
32-36 St. reduced gas oil	1.375– 1.50	1.375– 1.50	1.375
24-26 fuel oil (per bbl.)	$0.375–$0.40	$0.375–$0.40	$0.35 –$0.375
20-24 fuel oil (per bbl.)	$0.325–$0.35	$0.325–$0.35	$0.30 –$0.325
18-22 fuel oil (per bbl.)	$0.30 –$0.325	$0.30 –$0.325	$0.30

****WEST TEXAS** (F. o. b. West Texas refinery, for unrestricted shipment)

30-32 gas oil	†1.375– 1.50	†1.375– 1.50	†1.375– 1.50
28-30 zero gas oil	†1.375– 1.50	†1.375– 1.50	†1.375– 1.50
18-22 fuel oil (per bbl.)	$0.30	$0.30	$0.30

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil	2.00 – 2.25	2.00 – 2.25	2.00
32-36 gas oil, zero	2.25 – 2.50	2.25 – 2.50	2.25
14-16 fuel oil (per bbl.)	$0.40 –$0.45	$0.40 –$0.45	$0.40 –$0.45

ARKANSAS (Ark., N. La. and Miss. destination)

32-36 gas oil	2.00 – 2.25	2.00 – 2.25	2.00
32-36 gas oil, zero	2.25 – 2.50	2.25 – 2.50	2.25
28-30 gas oil	†2.00	†2.00	†1.75
20-24 fuel oil (per bbl.)	$0.525–$0.55	$0.525–$0.55	$0.525–$0.55
9-12 fuel oil (per bbl.)	$0.425–$0.45	$0.425–$0.45	$0.425–$0.45
Black oil	3.00	3.00	3.00

CALIFORNIA (F. o. b. refinery.)

14-18 fuel oil (per bbl.)	$0.45 –$0.55	$0.45 –$0.55	$0.45 –$0.55
14-18 Bunker oil (per bbl.)	$0.55 –$0.75	$0.55 –$0.75	$0.55 –$0.75
30-34 gas oil (per bbl.)	$1.00 –$1.15	$0.85 –$0.95	$0.80 –$0.95
27 Plus Diesel oil (per bbl.)	$0.85 –$0.95	$0.80 –$0.90	$0.80 –$0.95

PETROLATUMS

PENNSYLVANIA (Per pound, in barrels, carload lots, f. o. b. Penna. refinery. In tank cars ⅛c to ¼c per pound less.) Quotations are from majority of refiners.

Snow White	6.75 – 7.50	6.75 – 7.50	6.75 – 7.50
Lily White	5.75 – 6.50	5.75 – 6.50	5.75 – 6.50
Cream White	4.75 – 5.50	4.75 – 5.50	4.75 – 5.50
Light Amber	2.625– 3.25	2.625– 3.25	2.625– 3.25
Amber	2.375– 3.00	2.375– 3.00	2.375– 3.00
Red	2.00 – 2.75	2.00 – 2.75	2.00 – 2.75

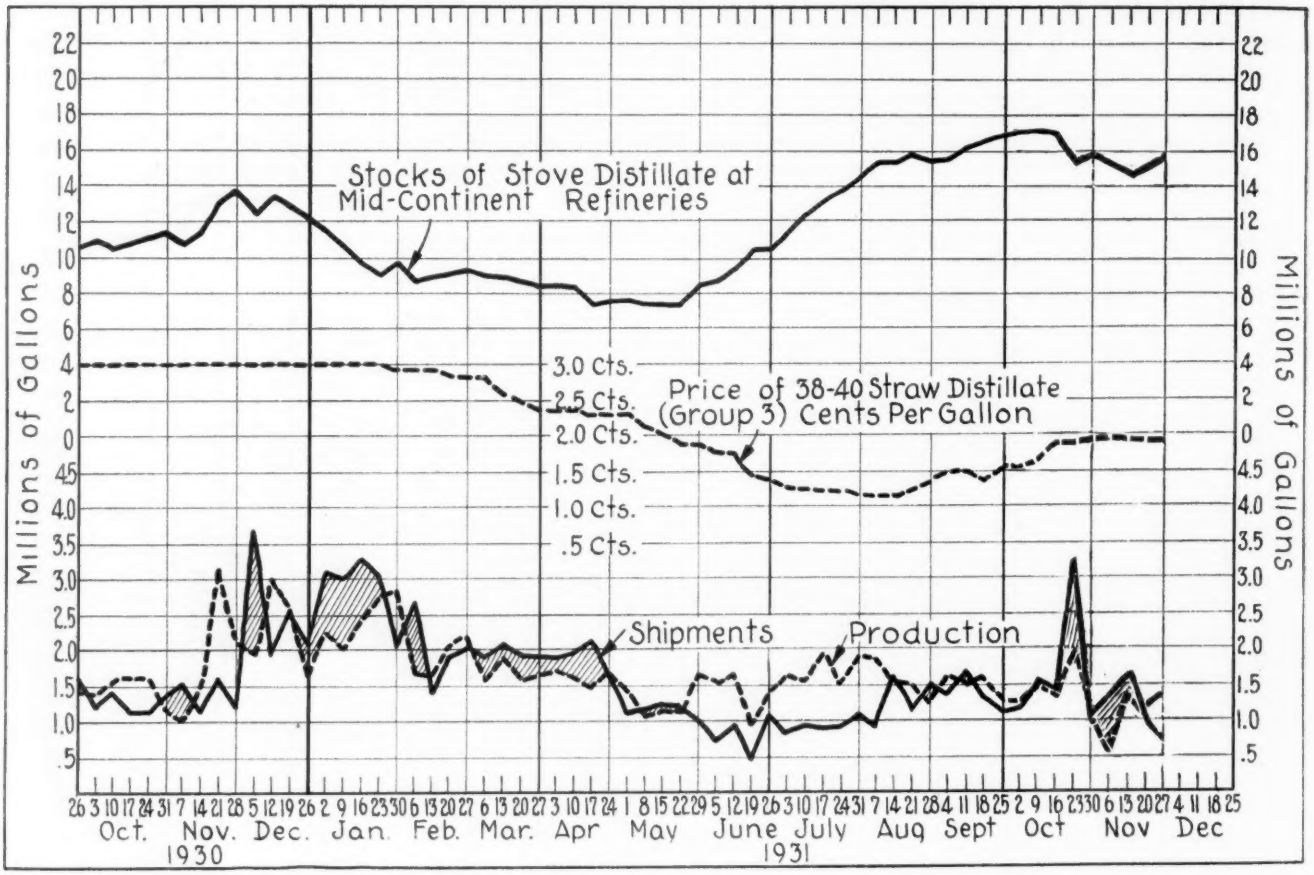
PETROLEUM COKE

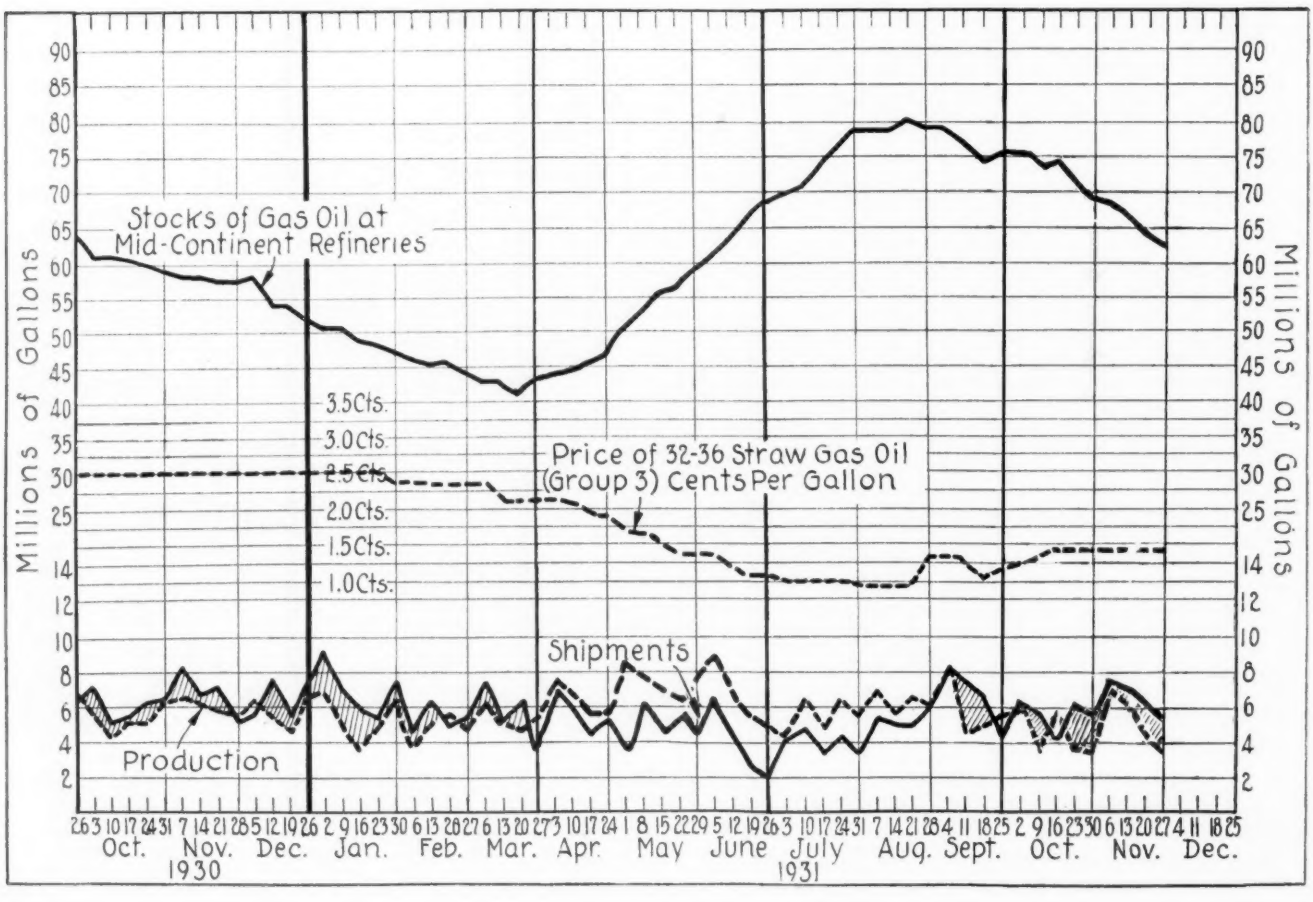
****OKLAHOMA** (F. o. b. Oklahoma refineries)
(Per ton in car lots)

Lump	$3.00 –$4.00	$3.00 –$4.00	$3.00 –$4.00
Still run	$2.00	$2.00	$2.00
Breeze	$0.75 –$1.00	$0.75 –$1.00	$0.75 –$1.00

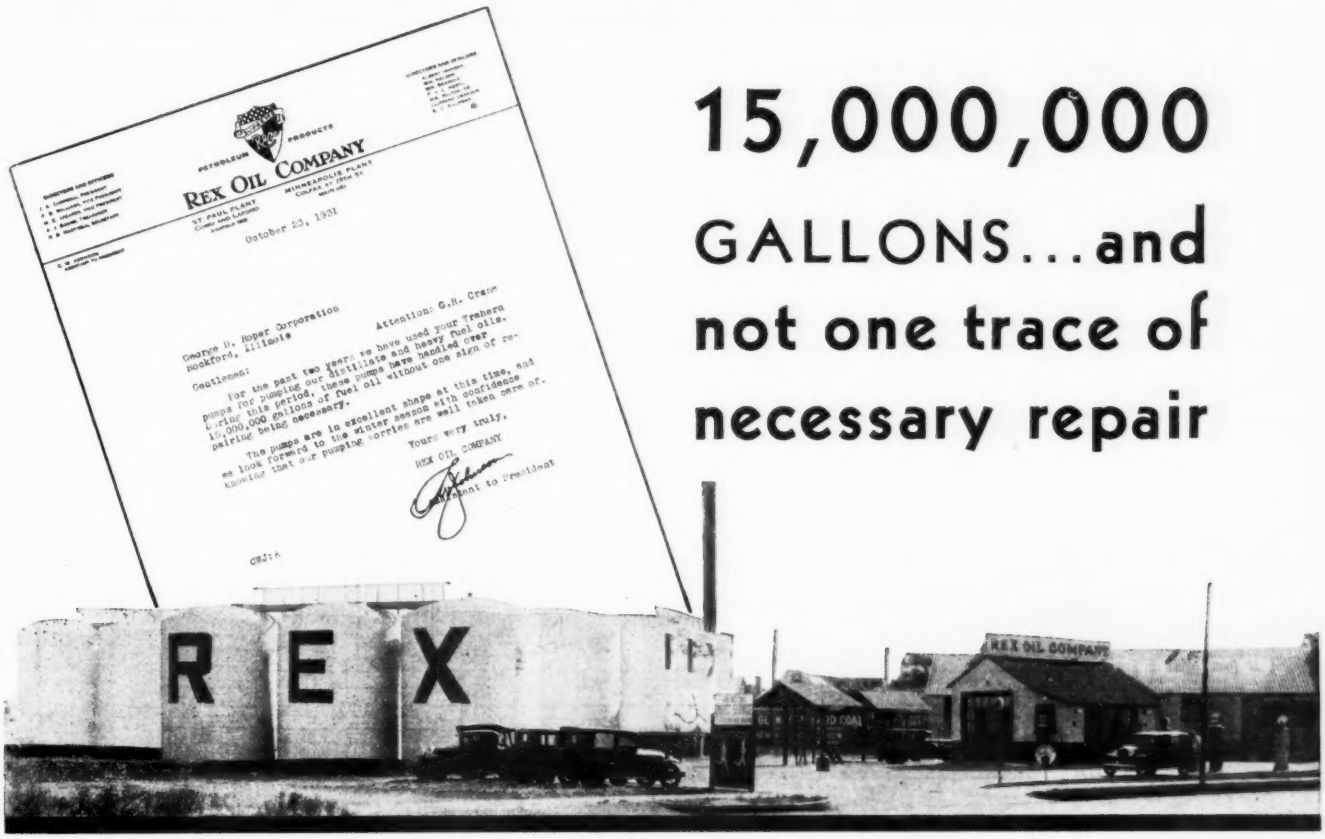
Barometer of Mid-Continent Refinery Market—Week Ending November 27

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News





15,000,000 GALLONS... and not one trace of necessary repair


REX OIL COMPANY
October 23, 1931
Geo. D. Roper Corporation
Rockford, Illinois
Attention: G.H. Crane
Gentlemen:
For the past two years we have used your Trehern pumps for pumping our distillate and heavy fuel oils. During this period, these pumps have handled over 15,000,000 gallons of fuel oil without one sign of repairing being necessary.
The pumps are in excellent shape at this time, and we look forward to the winter season with confidence knowing that our pumping worries are well taken care of.
Yours very truly,
REX OIL COMPANY
Asst. to President
REX
REX OIL COMPANY

The Rex Oil Company, Minneapolis and St. Paul, writes:

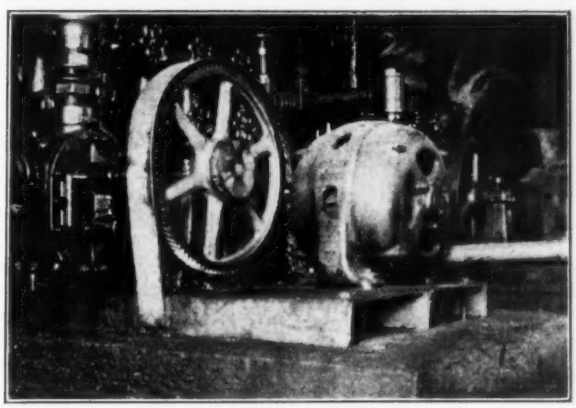
> *"For the past two years we have used your pumps for pumping our distillate and heavy fuel oils. During this period, these pumps have handled over 15,000,000 gallons of fuel oil without one sign of repairing being necessary. The pumps are in excellent shape at this time, and we look forward to the winter season with confidence, knowing that our pumping worries are well taken care of."*
>
> *C. W. Johnson, Ass't. to Pres.*

Here's the reason why both large and small oil companies, from coast to coast, order and re-order ROPER pumps for unloading and transferring petroleum products. For complete details and specifications, write Geo. D. Roper Corporation, Rockford, Illinois.

ROPER

VIEW IN PUMP HOUSE AT REX PLANT

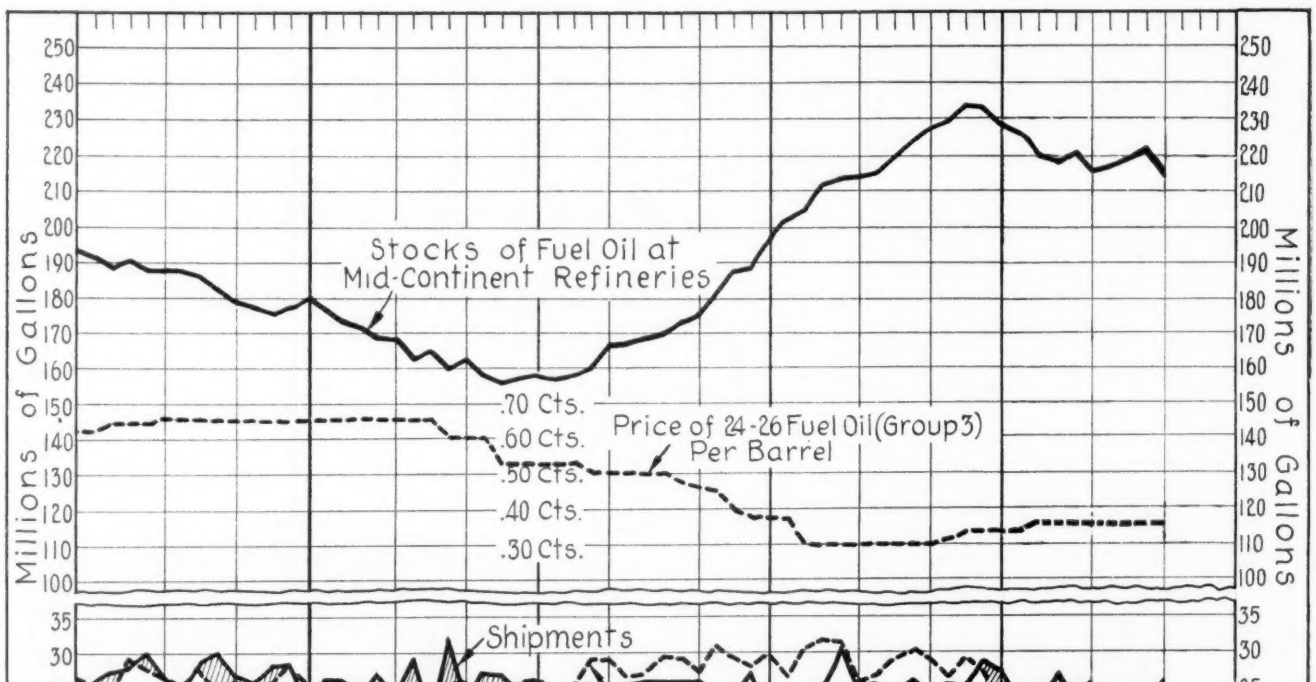
These are the two ROPER single-unit pumps used by Rex. ROPER pumps, designed and built specifically for petroleum product transfer, are available in capacities up to 300 g.p.m. per pump, with as many as six pumps to a single unit.



A Complete Line of Power and Hand Pumps for Petroleum Products

Barometer of Mid-Continent Refinery Market—Week Ending November 27

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News



California Refinery Market

Cold Snap Cleans Out Gas Oil Stocks

Staff Special

LOS ANGELES, Nov. 26

CALIFORNIA Petroleum Markets were unusually dull the past week, with only slight interest manifested in products for export and with advanced quotations on gas oil and independent gasolines the only features of domestic markets

East Coast buyers were slightly active with inquiries for current quotations on cargo lots of U. S. Motor, 65 octane number, and Grade AA natural gasoline. No sales were reported although traders believed local suppliers would quote 4 to 4.25 cents on U. S. Motor, a price practically in line with those of Gulf refiners. Grade AA natural gasoline was reported available for export at 5 cents, too high to attract interested buyers.

Inquiry from buyers in the Orient, Java, and South America for California cased goods was reported continuing in fair proportion. Although traders had few actual sales on their books, indications for the future were considered optimistic. Current quotations on U. S. Motor gasoline in cases ranged at $1.35 to $1.50, and on 400 e.p. gasoline at $1.45 to $1.65, both price ranges f.a.s. San Pedro.

Independent suppliers reported making f.a.s. quotations of $1.15 to $1.25 on cased, water white, kerosine, as against a major price of $1.35. Quotations on a prime white product, ranged at $1.10 to $1.20 by the independents to $1.25 by the majors.

Current quotations on tank car and tank truck and trailer movement of Independent gasoline within the state carried a spread of 10.25 to 11 cents, including the state tax. Major refiners continued to quote 11.5 cents.

Demand from out-of-state buyers for California gasoline was light after an advance in tank car quotations which brought prices to 6.5 to 7.5 cents, exclusive of tax.

An extended cold spell in the California citrus areas quickly cleaned out the supply of independent gas oil used for smudging. As a result, quotations at the end of the week ranged generally $1.05 to $1.15 a barrel. Warmer weather was expected to lower the price to a bottom of $0.95.

Natural gasoline quotations were 5.5 to 5.75 in tank car lots, with demand only fair. Quotations on other products remained practically unchanged.

Denies Sale of Refinery At Mereaux Completed

NEW YORK, Nov. 30.—New York newspapers during the past week reported that Sinclair interests had sold the 20,000-barrel Sinclair Refinery at Mereaux, La., and three tank steamers to the Tex-York Utilities Corp.

Count Ivan L. Leschinsky, president of the Courtland Palmer Co., was re-

ported as a principal in the negotiations.

Attorneys for Sinclair deny that a sale has been consummated.

The published reports indicated that the Tex-York company planned to spend $10,000,000 rehabilitating the plant and building a 400-mile pipeline to East Texas. The Mereaux refinery has been shut down for some time. It was used some years after it was acquired in 1917 to process Mexican crude.

Pennsylvania Markets

Light Oil Prices Steady

CLEVELAND, Nov. 28.—Trading was only moderately active in the western Pennsylvania refinery market the last week in November. Light oil prices were fairly steady. Lubricating oils sagged to new low levels for the current off-season.

While jobbers were none too liberal in ordering gasoline shipments, buying was in sufficient volume to keep the market free of distress material. The low of the U. S. Motor price range moved up 0.125 cent early in the week and remained steady at 4.625 cents the remainder of the week.

Atlantic Refining Co. Nov. 28 announced a 1-cent advance in retail prices to become effective in Pennsylvania and Delaware Nov. 30. The trade generally expected this move to bring more active demand from jobbers.

Kerosine was active and prices continued to advance. All grades moved up 0.125 cent. Eastern seaboard suppliers were said to be short of kerosine and buying considerable material in the Pennsylvania field. Coupled with an active demand from the jobbing trade, this put kerosine in about the best position of any commodity in the market.

Fuel oil was quiet. Industrial demand remained low and the weather as yet has not been sufficiently cold to stimulate demand from distributors of domestic heating oils. The 36-40 oil, however, remained unchanged at 2.625 to 3 cents a gallon.

Cylinder stocks and neutral oils, with few exceptions, were quoted 0.5 to 1 cent per gallon lower at the end of the week. Distress selling of bright stock sent prices for this commodity down 1 to 3 cents per gallon.

Gasoline Up in New Jersey Territory

NEW YORK, Nov. 30.—Standard Oil Co. of New Jersey late today announced that effective Dec. 1 it would advance tank wagon and service station prices of gasoline 0.5 cent through its territory, outside of Delaware. Prices in Delaware were advanced 1 cent, Nov. 30.

6th Winter...

PENNSYLVANIA LOW COLD TEST OILS

which pour below zero ... exclusively processed by methods culminating from 50 years of refining experience.

Free Flowing at Lowest Winter Temperatures

Viscosities	Pour Tests
50/55 @ 210	Below 0° F.
60/65 @ 210	Below 0° F.
75/80 @ 210	Below 0° F.
85/90 @ 210	Below 0° F.

Also Higher Viscosities If Desired

TANK CARS ONLY

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W. H. Daugherty & Son Refining Co.

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Complete Wax Plants designed and built
Stills, Towers, Condensers, and other Oil Refinery Equipment
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Pacific Coast Distributor: Pacific Coast Steel Corporation San Francisco, Los Angeles, Portland, Seattle, Honolulu

Eastern Domestic Markets

Better Retail Conditions Help Wholesale Markets

Staff Special
NEW YORK, Nov. 28

ENCOURAGING news was released in eastern gasoline markets during the week ended Nov. 21. The Atlantic Refining Co. announced that tank wagon and service station prices of gasoline would be advanced 1 cent through Pennsylvania and Delaware. Retail price wars in metropolitan New York showed signs of abatement. Wholesale gasoline and kerosine prices were steady in the key markets.

The expected arrival of another cargo of Roumanian gasoline was the subject of much comment among eastern marketers. The tank steamer, Arcola, with 80,000 barrels of gasoline is due to arrive in Baltimore on Dec. 1. It is understood the gasoline will be re-shipped to Detroit in tank cars. It was understood further that none of this gasoline would find its way into eastern markets.

On the strength of the advance in the Atlantic's territory, tank sellers in Philadelphia expressed the opinion that their prices would be pegged at 6 cents flat rather than 5.75 cents for gasoline with 65 octane number and above. The general feeling was observed to be the best the Philadelphia market has experienced in many months. There seemed to be no doubt that a majority of the companies would follow this advance.

The New York harbor market reflected the buoyancy of the Philadelphia market. Tank car prices were steady at 5.5 cents for below 65 octane gasoline and 5.75 to 6 cents for the higher octane grades.

New York and New England retail markets which have been rather distressed by local price wars at the pumps showed definite signs of improvement. Metropolitan New York, particularly, showed a trend for the better.

In one section of Long Island 10 and 11 gallons for $1, including tax, were advertised by major companies during the past few weeks. Tank wagon deliveries in some instances were on the same price basis as wholesale tank car shipments. However, late this week it was reported that the intense competition has subsided and that a program of offering 7 gallons for $1 would be generally adopted.

The Baltimore gasoline market, likewise, was improved, due to the higher market in Pennsylvania. Before the market advanced, one seller reported sales in sizable volume at present tank car prices of 5.5, 5.75 and 6 cents. Due to the announced advance, this seller stated it was likely a fractional advance in tank car prices would occur.

New England markets were generally steady. Demand from the jobbing trade was slow, but prices remained unchanged at 6 to 6.25 cents in Boston and Providence, and 6.5 cents at Portland. One company reported an increase in gallonage in North Boston, which was attributed to the marketing of a third-grade product on a price basis. The consumers in North Boston, it was observed, were shopping around for cheap gasoline due to the closing of several industrial plants which have been the means of support for a large number of people in that district.

Kerosine prices were steady and well supported by buying on the basis of 5.5 cents at Baltimore and New York and Boston. The recent cold weather began to increase the demand for heating oils in the north Atlantic markets. Prices were unchanged at 3.5 cents for light heating oil and 4.5 cents for furnace oil.

Bunker oil prices were unchanged at $0.60 per barrel at New York and Boston. Prices tended higher in the Philadelphia market. Four refiners were asking $0.70 per barrel for Grade C oil. Diesel oil remained unchanged at $1.30 per barrel at New York and Boston.

Gulf Coast Markets

Foreign Inquiry Absent from Gulf

Staff Special

NEW YORK, Nov. 28.—Cargo markets at the Gulf underwent little change this week. No sales to domestic buyers were reported. Foreign inquiry was totally lacking in view of the minimum 5-cent price for 64-66, 375 end point gasoline quoted by American suppliers. Business reported a week ago was believed to have gone to Roumanian suppliers.

American refiners showed no disposition to invite business under 5 cents for 64-66, 375 end point gasoline. It was understood by several sellers that Roumanian refiners were offering the same grade at 4.75 cents f.o.b. Constanza.

Gasoline supplied on an octane basis was quoted at 4.50 cents minimum for below 65 octane number and 5 cents for above 65 octane. No sales were reported. A majority of refiners were quoting 4.75 and 5.25 cents for the two grades.

Kerosine was scarce and prices were well maintained at 4 cents for the water white grade. One of the reasons for the scarcity was that refiners were leaving a lot of kerosine in the gas oil in order to be able to supply a low pour test heating oil for winter consumption.

Cargo lots of bunker oil, Grade C, were comparatively scarce although some of this oil was available at $0.40 per barrel. Panuco crude was available at $0.48 per barrel according to some reports. One supplier reported that operations were retarded due to floods in the producing areas.

Wax Markets

Prices Lower

NEW YORK, Nov. 28.—Several grades of waxes were offered at slightly lower prices by a few sellers in the New York and New Orleans markets. Scale wax in the New York market was quoted at 2.125 cents per pound by most refiners. However, some of this grade was available in a few hands at 2 cents. In the New Orleans market scale wax was offered at 1.95 cents or 5 points under the low of the New York market. New York suppliers reported the loss of some business to the southern trade.

Foreign business was almost totally lacking. The Spanish Monopoly a week ago placed its orders for its periodical requirements among six refiners and traders. The business, consisting of 2500 tons gross, was distributed in 500 ton lots among four refiners and 250 ton lots between two traders.

The 125-127 fully refined grade, popular in export circles, was quoted 0.125-cent lower in both New York and New Orleans markets. The 123-125 fully refined grade was lower in a similar amount.

Correction

The price of Oklahoma U. S. Motor gasoline, below 57 octane number, in the Summary of Group 3 Quotations table, was published erroneously at 475 to 5 cents as of Nov. 23, in the Nov. 25 issue, page 69. Correct price on Nov. 23 was 4.25 to 4.75 cents, as shown in the regular refinery table in that issue, page 74.

Crude Price Changes

PITTSBURGH—Dec. 1 Joseph Seep Purchasing Agency reduced Pennsylvania grade crude in the Macksburg, O., district in Buckeye lines 10 cents, to new price of $1.40 per barrel.

On The Lazy Bench

Maybe He Was a Mormon

Caller: "Is the manager in?"

Ikey: "No, he just went out to lunch with his wife."

Caller: "Well, when he gets back with the stenographer, tell him his wife called."

—Indiana Petroleum Marketer
The Indiana Petroleum Association

* * *

A preacher was explaining to his congregation the great unhappiness caused by divorce, and urging husbands to be more attentive to their wives, to kiss them more frequently.

Arriving home, one of the husbands in the congregation, who evidently had chosen to go to church rather than be helpful in many domestic problems, rushed into the kitchen where his wife was laboring, and abruptly kissed her.

Breaking into tears, she cried: "The baby sick, the furnace fire out, the plumbing leaking, and now you come home drunk. It's too much."

—The Gas Line
West Penn Oil Co.

* * *

Knew Him Rite Well

"Did you know the defendant, Rastus?"

"Ah, jes had a logical acquaintance wid him."

"What do you mean by logical acquaintance?"

"Well, us both belong to the same lodge."

—Shell Globe
Shell Petroleum Corp.

* * *

Junior's career has at last been definitely settled. It has been decided that he shall be trained as a caddy, so that he may meet his father occasionally.

—Union Oil Bulletin
Union Oil Co. of California

* * *

"You say you found a letter in a woman's hand writing in my pocket this morning? I'm sure I don't know how it got there!"

"I do! I gave it to you to mail three weeks ago!"

—Union Oil Bulletin
Union Oil Co. of California

* * *

So Embarrassing

A woman arriving in this country after a short visit to the continent was asked the usual question by the customs official at the landing port, "Anything to declare, madam?"

"No," she replied, "nothing."

"Then, madam," said the official, "am I to take it that the fur tail I see hanging down under your coat is your own?"

—Shell Globe
Shell Petroleum Corp

CUSTOMERS SPECIFY METERED FUEL OIL DELIVERY

"As soon as our customers learned about the Niagara Meter on one of our fuel oil trucks, they began to specify delivery by metered truck. We had to put a Niagara Meter on the other fuel oil truck to satisfy the demand for metered delivery."

This statement, from an official of a well-known progressive oil company tells a story to every fuel oil truck owner. Customers recognize the accuracy and reliability of metered measurement; the oil company profits by increased business. Help yourself along the road to consumer preference by getting full information about the Niagara Tank Truck Metering Assembly.

Niagara Oil Meters

BUFFALO METER COMPANY
2889 Main Street Buffalo, N. Y.

ALL PETROLEUM PRODUCTS

CYLINDER STOCKS—	Steam Refined and Filtered.
BRIGHT COLD TEST STOCK—	"ALASKA" Brand—refined from paraffine base crude oil—25° Baume gravity—lowest cold test—unusually bright color.
MOTOR AND AVIATION OILS—	
WHITE NEUTRAL OILS—	Medicinal and Technical qualities.
PETROLATUMS—	All colors—"HENULINE" brand known all over the world.
PARAFFINE WAXES—	Fully Refined —Semi-Refined— Scales.

23 Years' Experience—Products Guaranteed. Dependable source of supply.

S. HENLE, INC., NEW YORK 33 SOUTH WILLIAM STREET

Complete Seaboard Market

Export Markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of sales and quotations. Prices shown below do not include inspection tax levied in Florida and South Carolina.)

	Prices Nov. 30	Prices Nov. 23	Prices Nov. 16
U. S. MOTOR GASOLINE, Below 65 Octane Number			
New York harbor	5.50 – 5.75	5.50 – 5.75	5.50
Boston	6.00	6.00	6.00
Providence	6.00	6.00	6.00
Philadelphia District	5.50 – 5.75	5.50 – 5.75	5.50
Baltimore District	5.50 – 5.75	5.50 – 5.75	5.50
U. S. MOTOR GASOLINE, 65 Octane Number and Above			
New York harbor	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
Portland district	6.50	6.50	6.50
Boston district	6.25	6.25	6.25
Providence district	6.25	6.25	6.25
Philadelphia district	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
Baltimore district	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
Norfolk district	6.00	6.00	6.00
Charleston district	6.00	6.00	6.00
Savannah district	6.00	6.00	6.00
Jacksonville district	6.00	6.00	6.00
‡DOMESTIC AVIATION GASOLINE			
New York harbor	9.00 –10.00	9.00 –10.00	9.00 –10.00
Philadelphia	9.00 –10.00	9.00 –10.00	9.00 –10.00
Baltimore	9.00 –10.00	9.00 –10.00	9.00 –10.00
Boston	9.50 –11.00	9.50 –11.00	9.50 –11.00

‡Prices are based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167°F. and not less than 122°F.; 50% recovery at 221°; 90% at 311°; 96% at 347° end point 374°F. Gasoline of fighting grade specifications in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

WATER WHITE KEROSINE			
New York harbor	5.50	5.50	5.50
Philadelphia district	5.50	5.50	5.50
Baltimore district	5.50	5.50	5.00 – 5.50
GAS OIL: 28-34 Gravity			
New York harbor	3.50	3.50	3.50
Boston district	3.75	3.75	3.75
FURNACE OIL: 36-40 Gravity			
New York harbor	4.50	4.50	4.50
Boston district	4.50	4.50	4.50
GRADE C BUNKER OIL (Lighterage 5c per bbl. additional)			
New York harbor	$0.60	$0.60	$0.60
Boston district	$0.60	$0.60	$0.60
DIESEL OIL			
New York harbor	$1.30	$1.30	$1.30

New York Export Market

(Lubricating oils are per gal. in bbls. F.a.s. New York)

	Nov. 30	Nov. 23	Nov. 16
CYLINDER OILS (Pennsylvania Products)			
Bright stock, No. 8 color	29.00 –30.00	29.50 –30.00	29.50 –30.00
Bright stock, No. 6½ color diluted	28.00 –29.00	28.50 –29.00	28.50 –29.00
600 D filtered	27.50 –28.00	27.50 –28.00	27.50 –28.00
600 Warren E filtered	23.00 –24.00	23.00 –24.00	23.00 –24.00
600 stm. refd. unfiltered	18.50 –19.50	19.50 –20.00	19.50 –20.00
650 stm. refd. unfiltered	22.00 –23.00	22.50 –23.00	22.50 –23.00
600 flash steam refined	23.00 –24.00	23.50 –24.00	23.50 –24.00
630 flash, steam refined	27.00 –28.00	27.00 –28.00	27.00 –28.00
RED PARAFFIN OILS (Vis. 100°)			
300 vis. No. 6½ color	15.00 –17.00	15.00 –17.00	15.00 –17.00
250 vis. No. 6 color	15.00 –16.00	15.00 –16.00	15.00 –16.00
200 vis. No. 6 color	13.00 –14.00	13.00 –14.00	13.00 –14.00
PALE PARAFFIN OILS (Vis. 100°)			
230 vis. No. 3¾ color	16.50 –17.00	16.50 –17.00	16.50 –17.00
180 vis. No. 3¼ color	15.00 –16.00	15.00 –16.00	15.00 –16.00
100 vis. No. 2¼ color	10.50 –11.50	10.50 –11.50	10.50 –11.50

Wax Market

(Prices in cents per pound, f. a. s. carload lots. Tests made by A.S.T.M. method with melting points converted into A.M.P. by adding 3° F.)

NEW YORK	Nov. 30	Nov. 23	Nov. 16
124-126 Yellow crude scale	1.90 – 2.00	1.90 – 2.00	1.90 – 2.00
122-124 White crude scale	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125
124-126 White crude scale	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125
123-125 Fully refined	2.875– 3.00	2.875– 3.00	2.875– 3.00
125-127 Fully refined	2.875– 3.00	2.875– 3.00	2.875– 3.00
128-130 Fully refined	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
130-132 Fully refined	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
133-135 Fully refined	4.125– 4.25	4.125– 4.25	4.125– 4.25
135-137 Fully refined	4.375– 4.50	4.375– 4.50	4.375– 4.50
NEW ORLEANS			
124-126 Yellow crude scale	1.90 – 2.00	1.90 – 2.00	1.90 – 2.00
122-124 White crude scale	1.95 – 2.00	1.95 – 2.00	1.95 – 2.00
124-126 White crude scale	1.95 – 2.00	1.95 – 2.00	1.95 – 2.00
123-125 Fully refined	2.75 – 2.875	2.875– 3.00	2.875– 3.00
125-127 Fully refined	2.75 – 3.00	2.875– 3.00	2.875– 3.00
128-130 Fully refined	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
130-132 Fully refined	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
133-135 Fully refined	4.125– 4.25	4.125– 4.25	4.125– 4.25

Gulf Coast Bulk Market

(Prices are f. o. b. Gulf oil terminals representing sellers' opinions covering bulk shipments of 20,000 barrels or more, for export and / or coastwise shipment unless otherwise noted.)

GASOLINE	Prices Nov. 30	Prices Nov. 23	Prices Nov. 16
U. S. MOTOR GASOLINE (Domestic shipment)			
Below 65 octane number	4.50 – 4.75	4.50 – 4.75	4.25 – 4.50
65 octane number and above	5.00 – 5.25	5.00 – 5.25	4.75 – 5.00
Export Shipment			
U.S. Motor gasoline	4.50 – 4.75	4.50 – 4.75	4.25 – 4.50
60-62, 400 e.p. gasoline	4.625– 4.875	4.625– 4.875	4.375– 4.625
61-63, 390 e.p. gasoline	4.75 – 5.00	4.75 – 5.00	4.50 – 4.75
64-66, 375 e.p. gasoline	5.00 – 5.25	5.00 – 5.25	4.75 – 5.00
U. S. Motor, (cases cargoes)	$1.50	$1.50	$1.50
64-66, cases (cargoes)	$1.60	$1.60	$1.60
KEROSINE			
44 water white	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
41-43 prime white	3.75 – 4.00	3.75 – 4.00	3.75 – 4.00
Water white, cases (cargoes)	$1.40	$1.40	$1.40
Prime white, cases (cargoes)	$1.30	$1.30	$1.30
GAS & BUNKER OILS			
*26-30 translucent gas oil	2.25 – 2.50	2.25 – 2.50	2.25 – 2.50
*30 plus translucent gas oil	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75
Grade C bunker oil, for ships' bunkers, per bbl.	$0.45	$0.45	$0.45
Grade C bunker oil, per bbl. in cargoes	$0.40 –$0.45	$0.40 –$0.45	$0.40 –$0.45

*Less than ½ of 1% sulphur.

MEXICAN CRUDE AND BUNKER OILS (f. o. b. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid, per bbl.	$0.48 –$0.50	$0.48 –$0.50	$0.48 –$0.50
Grade C bunker oil for bunkering, taxes paid, per bbl.	$0.55	$0.55	$0.55

SOUTH TEXAS LUBRICATING OILS (Viscosity at 100°F. cold test 0 Tanker, f. o. b. Gulf oil terminals.)

100 vis. No. 2 unfiltered pale	4.375– 4.50	4.375– 4.50	4.375– 4.50
200 vis. No. 3 unfiltered pale	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
300 vis. No. 3 unfiltered pale	7.625– 8.00	7.625– 8.00	7.625– 8.00
500 vis. No. 3½ unfiltered pale	8.25 – 8.75	8.25 – 8.75	8.25 – 8.75
750 vis. No. 4 unfiltered pale	9.25 – 9.75	9.25 – 9.75	9.25 – 9.75
1200 vis. No. 4 unfiltered pale	12.00 –12.50	12.00 –12.50	12.00 –12.50
200 vis. No. 5-6 red oil	5.25 – 5.75	5.25 – 5.75	5.25 – 5.75
300 vis. No. 5-6 red oil	6.25 – 6.75	6.25 – 6.75	6.25 – 6.75
500 vis. No. 5-6 red oil	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75
750 vis. No. 5-6 red oil	8.25 – 8.75	8.25 – 8.75	8.25 – 8.75
1200 vis. No. 5-6 red oil	13.25 –13.50	13.25 –13.50	13.25 –13.50

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Nov. 30	Nov. 23	Nov. 16
Gasoline, U. S. Motor, 53-55 Gravity	3.875– 4.50	3.875– 4.50	3.875– 4.50
Gasoline, U. S. Motor-blends and special cuts	4.125– 4.75	4.125– 4.75	4.125– 4.75
Gasoline, 400 e.p. blend	4.375– 5.00	4.375– 5.00	4.375– 5.00
Gas oil, 30-34 per bbl.	$0.78 –$0.90	$0.78 –$0.90	$0.78 –$0.90
Diesel Oil, 27 plus, per bbl.	$0.80 –$0.90	$0.80 –$0.90	$0.80 –$0.90
Bunker oil, 14-18 per bbl.	$0.55 –$0.70	$0.55 –$0.70	$0.55 –$0.70
Fuel oil, 14-18 per bbl.	$0.55 –$0.70	$0.55 –$0.70	$0.55 –$0.70
Kerosine, 38-40 w.w., 125-150 flash, per gal.	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75
Cased Goods			
Gasoline, U. S. Motor	$1.35 –$1.45	$1.35 –$1.45	$1.35 –$1.45
Gasoline, 400 e.p. blend	$1.50 –$1.60	$1.50 –$1.60	$1.50 –$1.60
Kerosine, 38-40 w.w., 125-150 flash	$1.25 –$1.35	$1.25 –$1.35	$1.25 –$1.35
Kerosine, prime white	$1.05 –$1.15	$1.05 –$1.15	$1.05 –$1.15

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	Nov. 30	
	Crude &/or Fuel	Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	†15	††15
Gulf to U. K. or Continental ports*	9	9
North Atlantic to U. K. or Continental ports*	7/6	7/6
Calif. to North Atlantic ports (not E. of N. Y.)	$0.45-$0.47	$0.45-$0.47
Gulf to North Atlantic ports (not E. of N. Y.)**	14-15	15

*Continental ports in the range between Bordeaux and Hamburg, both inclusive. **Venezuela loading same rate, for Tampico 2c to 3c per bbl. additional. †Last paid 12/6; owners ask 15. ††Last paid 11/6; owners ask 15.

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Tank Wagon, Service Station Markets for Gasoline and Kerosine

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

These Prices in Effect November 30, 1931, as Posted by Principal Marketing Companies

S. O. NEW JERSEY TERRITORY

	Gasoline		Total		Oil
	T.W.	Tax	T.W.	S.S.	T.W.
Atlantic City, N. J.	12.2	3	15.2	16.2	11.5
Newark, N. J.	11.2	3	14.2	15.2	10.5
Annapolis, Md.	11.7	4	15.7	16.7	11
Baltimore, Md.	10.9	4	14.9	15.9	8.5
Cumberland, Md.	12.7	4	16.7	17.7	12
Washington, D. C.	11.4	2	13.4	14.4	10.7
Danville, Va.	12.5	5	17.5	18.5	11.8
Norfolk, Va.	11	5	16	17	10.3
Petersburg, Va.	12	5	17	18	11.3
Richmond, Va.	11.4	5	16.4	15.4	10.7
Roanoke, Va.	12.7	5	17.7	17.7	12
Charleston, W. Va.	12.2	4	16.2	17.2	11.5
Keyser, W. Va.	12.8	4	16.8	17.8	12.1
Parkersburg, W. Va.	10.9	4	14.9	15.9	10.2
Wheeling, W. Va.	12.1	4	16.1	17.1	11.4
Charlotte, N. C.	11	6	17	18	10.7
Hickory, N. C.	13.3	6	19.3	20.3	12.6
Mt. Airy, N. C.	13.2	6	19.2	20.2	12.5
Raleigh, N. C.	12.9	6	18.9	19.9	12.2
Salisbury, N. C.	13.2	6	19.2	20.2	12.5
Charleston, S. C.	11	6	17	18	10.3
Columbia, S. C.	12.9	6	18.9	19.9	12.2
Spartanburg, S. C.	13.2	6	19.2	20.2	12.5

Discounts: gasoline, 2c per gallon discount off retail t. w. price to dealers thru S. O. New Jersey territory, except Maryland, New Jersey and Washington, D. C. where discount is 3c.

S. O. NEW YORK

Greater New York City: Boroughs of Manhattan, Bronx, Queens & Kings	12.3	2	14.3	16.3	9
Borough of Richmond	12.7	2	14.7	16.7	9
Albany, N. Y.	11.6	2	13.6	14.6	9.5
Buffalo, N. Y.	11	2	13	13	10
Rochester, N. Y.	12	2	14	14	10
Syracuse, N. Y.	11.8	2	13.8	14.8	9
Boston, Mass.	10.5	3	13.5	14.5	8.5
Augusta, Me.	12.8	4	16.8	17.8	9
Manchester, N. H.	10	4	14	15	8.5
Burlington, Vt.	13.3	4	17.3	17.3	9
New Haven, Conn.	11.5	2	13.5	14.5	9
Providence, R. I.	9.5	2	11.5	12.5	8.5

Discounts: on gasoline 2c per gal. off posted t.w. price to dealers, thru territory, except 3c to dealers in New York City.

ATLANTIC REFINING

Pittsburgh, Pa.	12	3	15	16	11
Philadelphia, Pa.	11	3	14	15	11
Allentown, Pa.	12	3	15	16	11
Erie, Pa.	12	3	15	16	11
Scranton, Pa.	12	3	15	16	11
Altoona, Pa.	12	3	15	16	11
Dover, Del.	12	3	15	16	11
Wilmington, Del.	12	3	15	16	11
Boston, Mass.	10.5	3	13.5	14.5	10
Springfield, Mass.	10	3	13	14	10
Worcester, Mass.	11.3	3	14.3	15.3	10
Fall River, Mass.	9	3	12	13	10
Providence, R. I.	9.5	2	11.5	12.5	10
Hartford, Conn.	11	2	13	14	10
New Haven, Conn.	12.6	2	14.6	15.6	10
Atlantic City, N. J.	12.2	3	15.2	16.2	11.5
Camden, N. J.	11.3	3	14.3	15.3	10.6
Trenton, N. J.	11.7	3	14.7	15.7	11
Annapolis, Md.	11.7	4	15.7	16.7	11
Baltimore, Md.	10.9	4	14.9	15.9	8.5
Hagerstown, Md.	11	4	15	15	11.7
Richmond, Va.	11.4	5	16.4	17.4	10.7
Wilmington, N. C.	11.1	6	17.1	18.1	10.4
Brunswick, Ga.	13	6	19	19	*13
Jacksonville, Fla.	13	7	20	21	10

Discounts: on gasoline to dealers: "split dealers," 2c off posted t.w. price; to 100% dealers, 2.5c of t.w.; to authorized dealers (under lease 1c per gal.), 2.5c off posted s.s. price.

Commercial accounts, under contract for one year, are sold at a discount off the posted prices, with due consideration to competition.

*Georgia kerosine prices include 1c state tax.

S. O. OHIO

Sohio X-70

Ohio statewide	13	4	17	18	13
Clark, Defiance, Greene, Hancock, Marion, Miami, Preble, Summit, Williams and Wyandot counties	13	4	17	17	13
Butler, Montgomery & Pickaway counties	12	4	16	16	13

Latest Changes in Tank Wagon Prices

Gasoline

S. O. New York—T.w. and s.s. up 1c, Syracuse, to 13.8c and 14.8c respectively, including 2c tax, **Nov. 24.**

Atlantic Refining—Correction: On page 84 of the Nov. 25 issue it was stated that in the 1c advance on gasoline prices through eastern Pennsylvania Nov. 23, the service station price at Philadelphia was unchanged. This should have read "tankwagon price unchanged" at Philadelphia. Correct prices at Philadelphia **Nov. 23** were 13c t.w., and 14c s.s., including 3c tax.

T.w. and s.s. up 1c generally thru Pennsylvania and Delaware, to 15c and 16c respectively, except Philadelphia t.w. and s.s. up 1c to 14c and 15c, including 3c tax, **Nov. 30.**

S. O. Ohio—S.s. only up 1c, thru Fulton county, to 18c, including 4c tax, **Nov. 27.**

S. O. Kentucky — Correction: In the general 1c advance, Nov. 16, thru territory, Mississippi points were first reported unchanged. Later check-up indicates that Jackson was advanced 2c and Vicksburg 3c. Prices are corrected in this issue.

Continental Oil—T.w. and s.s. up 1c generally thru Utah, except Salt Lake City unchanged, and up ½c, thru southern Idaho, **Nov. 24.**

Aviation Gasoline

Continental Oil—In general ½c advance thru southern Idaho, t.w. up ½c, Boise, to 24c including 5c tax, **Nov. 24.**

Kerosine

S. O. New York—Kerosine t.w. cut 1c, Albany, to 9.5c, cut 1.5c, Boston, Manchester and Providence, to 8.5c, cut 1.5c, Augusta, to 9c, all effective **Nov. 24.**

Hi-So Green (Third Grade)

Sells generally 2c under s.s. price of Sohio X-70. To resellers, discount is 1½c below Hi-So Green s.s. price. Not sold to consumers.

Ohio statewide	16	13

Discounts: on Sohio X-70 gasoline, to dealers and commercial consumers generally thru Ohio, 2c per gal. off t.w. price except in counties where prices are below statewide schedule discount is generally 3c.

S. O. KENTUCKY

Crown Gasoline

	Gasoline		Total		Oil
	T.W.	Tax	T.W.	S.S.	T.W
Lexington, Ky.	12	5	17	18	12
Louisville, Ky.	11	5	16	17	11
Paducah, Ky.	13	5	18	19	12
Covington, Ky.	13	5	18	19	12
Jackson, Miss.	12.5	5.5	18	18	11.5
Vicksburg, Miss.	12.5	5.5	18	18	8
Birmingham, Ala.	12	‡‡6	18	18	13
Mobile, Ala.	9	‡8.5	17.5	17.5	10
Montgomery, Ala.	14	*7	21	21	13.5
Macon, Ga.	14	6	20	20	†12
Atlanta, Ga.	13	6	19	19	12.5
Augusta, Ga.	14	6	20	21	†14
Savannah, Ga.	13	6	19	19	†13
Jacksonville, Fla.	13	7	20	21	12
Miami, Fla.	14	7	21	22	13
Tampa, Fla.	13	7	20	21	12
Pensacola, Fla.	13	**8	21	22	13

Kyso Green (Third Grade)

					Oil
Lexington, Ky.	10	5	15	15	12
Louisville, Ky.	9	5	14	14	11
Paducah, Ky.	10	5	15	15	12
Jackson, Miss.	11	5.5	16.5	16.5	11.5
Vicksburg, Miss.	11	5.5	16.5	16.5	8
Birmingham, Ala.	10.5	‡‡6	16.5	16.5	13
Mobile, Ala.	7.5	‡8.5	16	16	10
Montgomery, Ala.	12.5	*7	19.5	19.5	13.5
Atlanta, Ga.	11.5	6	17.5	17.5	*12.5
Macon, Ga.	12.5	6	18.5	18.5	†12

Discounts: on gasoline, 2c per gal. off t.w. price to dealers thru S. O. Kentucky territory.

At Atlanta, 1c special temporary discount on gasoline in Addition to 2c general discount, effective Oct. 6; also 3c discount off t.w. price of kerosine to dealers.

*Montgomery gasoline tax includes 5c state tax, 1c county tax, and 1c local privilege tax. Kerosine price includes ½c tax.

†Georgia kerosine prices include 1c state tax.

**Pensacola gasoline tax includes 7c state tax and 1c city tax.

‡Mobile gasoline tax includes 5c state tax, 1c city tax and 2.5c Mobile County tax.

‡‡Birmingham gasoline tax includes 5c state tax and 1c city tax.

S. O. INDIANA

Standard Red Crown Gasoline

Chicago, Ill.	12	3	15	15	9
Decatur, Ill.	12.4	3	15.4	15.4	9
E. St. Louis, Ill.	11.7	3	14.7	12.7	8.2
Joliet, Ill.	12.4	3	15.4	15.4	9
Peoria, Ill.	12.4	3	15.4	15.4	9
Quincy, Ill.	12.2	3	15.2	15 2	8.8
Springfield, Ill.	12.4	3	15.4	15.4	9
Indianapolis, Ind.	12.3	4	16.3	16.3	10 1
Evansville, Ind.	12.1	4	16.1	16.1	9.9
South Bend, Ind.	12.4	4	16.4	16.4	8
Detroit, Mich.	11.5	3	14.5	14.5	10.7
Grand Rapids, Mich.	12.7	3	15.7	15.7	10.6
Saginaw, Mich.	12.9	3	15.9	15.9	10.8
Marquette, Mich.	12.9	3	15.9	15.9	10.8
Green Bay, Wisc.	12.6	4	16.6	16.6	9.4
Madison, Wisc.	12.3	4	16.3	16.3	9.1
Milwaukee, Wisc.	12.1	4	16.1	16.1	8.9
La Crosse, Wisc.	13.2	4	17.2	17.2	10
Minneapolis, Minn.	11.4	3	14.4	14.4	9.9
Duluth, Minn.	13.5	3	16.5	16.5	9.9
Mankato, Minn.	13.1	3	16.1	16.1	8
Des Moines, Ia.	11.4	3	14.4	14.4	8
Davenport, Ia.	12.5	3	15.5	13.5	9.3
Sioux City, Ia.	12.1	3	15.1	15.1	8.9
Mason City, Ia.	12.5	3	15.5	15.5	9.3
St. Louis, Mo.	*11.9	2	13.9	13.9	8.3
Kansas City, Mo.	†12.9	2	14.9	14.9	7.6
St. Joseph, Mo.	† 8.4	2	10.4	10.4	7.5
Fargo, N. D.	14.9	3	17.9	17.9	11.9
Grand Forks, N. D.	15.2	3	18.2	18.2	12.2
Minot, N. D.	14.9	3	17.9	17.9	11.9
Pierre, S. D.	13	4	17	17	10.4
Huron, S. D.	13.3	4	17.3	17.3	10.7
Wichita, Kans.	10.8	3	13.8	13.8	7.8
Bartlesville, Okla.	9	5	14	14	7

*Includes city tax of ½c.

†Includes city tax of 1c.

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 2/25c; Nebraska, 3/50c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal. in lots of more than 50 bbls., 1.5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 1/5c per gal. on gasoline, approximately 5/8c on kerosine; and Wisconsin, 1/25c.

Kerosine inspection fees only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3.5c for next 3; 2/5c for next 5; 3/10c for next 15; and 1.5c per gal. in lots over 25 bbls.

Tank Wagon, Service Station Markets for Gasoline and Kerosine

These Prices in Effect November 30, 1931, as Posted by Principal Marketing Companies

Stanolind Blue Gasoline

					Oil
Stanolind Blue prices are 1.5c per gal. under Red Crown, except at following points:					
E. St. Louis, Ill.	10.2	3	13.2	10.7	8.2
Peoria, Ill.	10.9	3	13.9	12	9
Quincy, Ill.	9.2	3	12.2	13.7	8.8
St. Joseph, Mo.	†6.9	2	8.9	8.9	7.5
St. Louis, Mo.	*9.9	2	11.9	11.9	8.3
Detroit, Mich.	9.5	3	12.5	12.5	10.7
Grand Rapids, Mich.	11.2	3	14.2	13.2	10.6
Saginaw, Mich.	11.4	3	14.4	12.6	10.8
Wichita, Kans.	9.3	3	12.3	10.8	7.8
Minneapolis, Minn.	8.9	3	11.9	11.9	9.9
Evansville, Ind.	10.6	4	14.6	14	9.9
Davenport, Ia.	11	3	14	11.9	9.3
Des Moines, Ia.	11	3	14	11.9	8
Sioux City, Ia.	10.6	3	13.6	10.9	8.9
Green Bay, Wisc.	12.1	3	15.1	14.6	9.4
La Crosse, Wisc.	11.7	4	15.7	15	10

*Includes city tax of ½c.
†Includes city tax of 1c.

Discounts: Q.D.A., effective May 11, 1931, on gasoline: **To re-sellers,** thru territory, except Chicago:

Under 75,000 gals., off service station price: Ethyl, 3c Red Crown, 2.5c and Stanolind Blue, 1.5c per gal.; 75,000 gals. and over, off tank wagon price; Ethyl, 4c, Red Crown, 3.5c, and Stanolind Blue, 2c.

In Chicago, in any quantity, discounts are 4c per gal. on Ethyl gasoline, 3.5c on regular motor fuel grades and 2c on "third" grades, by principal marketing companies, discounts being off service station prices in quantities up to 75,000 gallons, and off t.w. price in quantities of 75,000 gallons and over.

To consumers, thru territory, except Chicago:

1,000 to 75,000 gals., off tank wagon price: Ethyl, 3c; Red Crown, 2.5c; and Stanolind Blue, 1.5c; 75,000 gals. and over, off tank wagon price, Ethyl, 4c; Red Crown, 3.5c; and Stanolind Blue, 2c.

In Chicago, in quantities over 1,000 gallons: Ethyl gasoline, 4c; regular grades 3.5c; "third" grades 2c, all discounts being off tank wagon price.

S. O. NEBRASKA

Red Crown Gasoline

Omaha, Neb.	10.9	4	14.9	15.9	9.25
McCook, Neb.	13	4	17	17	7.5
Norfolk, Neb.	12.75	4	16.75	17.75	9.75
North Platte, Neb.	13.75	4	17.75	18.75	10.5
Scottsbluff, Neb.	13	4	17	17	9

Nebraska Blue (Third Grade)

				Oil
Omaha, Neb.	4	....	13.9	9.25

Discounts: on gasoline to dealers, off normal service station prices: Red Crown Ethyl 3c; Red Crown 2.5c per gal.; Nebraska Blue, 1c.

S. O. LOUISIANA

Standard Gasoline

	Posted Retail T.W.	Tax	Total Posted Retail T.W.	Posted Retail S.S.	Oil T.W.
Little Rock, Ark.	11.5	6	17.5	18	11
Alexandria, La.	9.5	*6	15.5	15.5	†12
Baton Rouge, La.	11.5	5	16.5	17	†12
New Orleans, La.	8.5	*6	14.5	14.5	*10
Lake Charles, La.	8	*6	14	14	†12
Shreveport, La.	11.5	5	16.5	17	†12
Lafayette, La.	11.5	*6	17.5	18	†12
Bristol, Tenn.	12.5	6	18.5	19.5	14
Chattanooga, Tenn.	13.5	6	19.5	20	12
Knoxville, Tenn.	14	6	20	20.5	13.5
Memphis, Tenn.	10	6	16	16	11
Nashville, Tenn.	13	6	19	19.5	12.5

Blue-Gas (Third Grade)

	Tax	Total Posted Retail S.S.	Oil T.W.
Little Rock, Ark.	6	....	12	11
Alexandria, La.	*6	....	13.5	†12
Baton Rouge, La.	5	....	11.75	†12
New Orleans, La.	*6	....	12.5	*10
Lake Charles, La.	*6	....	12.5	†12
Shreveport, La.	5	....	12	†12
Chattanooga, Tenn.	6	....	15	12
Knoxville, Tenn.	6	....	17	13.5
Memphis, Tenn.	6	....	15	11
Nashville, Tenn.	6	....	14	12.5

Discounts: on gasoline and kerosine, in S. O. La. territory: To dealers and commercial consumers from the tankwagon, 2c per gal. off posted retail tank wagon price.

*Lake Charles, Alexandria, New Orleans and Lafayette gasoline tax includes 5c state tax and 1c parish tax. New Orleans kerosine price includes 1c parish tax in addition to 1c state tax.

†Kerosine price in Louisiana includes 1c state tax.

MAGNOLIA PETROLEUM

Maximum Mileage Gasoline

	T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Muskogee, Okla.	5	5	10	12	6
Oklahoma City.	9	5	14	16	7
Tulsa, Okla.	9	5	14	16	8
Fort Smith, Ark.	11.5	†5	16.5	17	11
Little Rock, Ark.	11.5	6	17.5	17	11
Texarkana, Ark.*	9	*4	13	15	8
Dallas, Tex.	10	4	14	15	8
El Paso, Tex.	11	4	15	17	10
Fort Worth, Tex.	10	4	14	15	7
Houston, Tex.	9	4	13	15	8
San Antonio, Tex.	9	4	13	15	7

Third Grade Gasoline

					Oil
Muskogee, Okla.	6	5	11	11	6
Oklahoma City.	8	5	13	13	7
Tulsa, Okla.	8	5	13	13	8
Fort Smith, Ark.	8	5	13	13	11
Little Rock, Ark.	6	6	12	12	11
Texarkana, Ark.	6	4	10	10	8
Dallas, Tex.	6	4	10	10	8
Fort Worth, Tex.	6	4	10	10	7
Houston, Tex.	7	4	11	11	8
San Antonio, Tex.	7	4	11	11	7

Discounts: on third grade gasoline, 1c per gal. off t.w. price to dealers. Fort Smith and Little Rock Maximum Mileage gasoline and kerosine prices are subject to 2c per gal. discount to dealers off t.w. price.

*Within city of Texarkana, the state tax on gasoline is 4c per gal. conforming with the Texas state tax. In this district outside of the city the 6c Arkansas tax applies.

†Fort Smith gasoline prices include Oklahoma tax of 5c; outside Fort Smith. Arkansas tax of 6c applies.

CONTINENTAL OIL

Denver, Colo.	10	4	14	17	12.5
Pueblo, Colo.	8	4	12	15	12
Grand Junc., Colo.	14	4	18	21	14.5
Casper, Wyo.	11	4	15	18	10
Cheyenne, Wyo.	11	4	*15	15	11.5
Butte, Mont.	13	5	18	21	16
Helena, Mont.	16	5	21	24	16
Salt Lake City, Utah.	13.5	4	17.5	20.5	16
Boise, Ida.	16	5	21	24	18
Twin Falls, Ida.	16	5	†21	20.5	18
Albuquerque, N. M.	13	5	18	21	14

†3.5c per gal. off t.w. price at Twin Falls to dealers.
*3c per gal. off t.w. price at Cheyenne to dealers.

S. O. CALIFORNIA

	Tax	Tank Truck (Resale)	*Retail Prices	Oil
San Francisco, Cal.	3	13.5	16.5	15.5
Los Angeles, Cal.	3	13	16	15.5
Fresno, Cal.	3	13.5	16.5	17
Phoenix, Ariz.	5	14.5	17	20
Reno, Nev.	4	17.5	20.5	19
Portland, Ore.	4	15	18	16.5
Seattle, Wash.	5	16	19	16.5
Spokane, Wash.	5	19.5	22.5	20.5
Tacoma, Wash.	5	16	19	16.5

Discounts: none on gasoline. Tank truck prices are those to resale trade; wholesale prices are generally 6c above tank truck prices, except at Phoenix, 1c.

*Retail prices are those of Standard Stations, Inc., marketing subsidiary of the Standard Oil Co. of California.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

Regular Gasoline

	T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Toronto.	17.5	5	22.5	26	18.5
Ottawa.	18.5	5	23.5	27	19.5
North Bay.	21.5	5	26.5	32	22.5
Fort William.	19.5	5	24.5	28	17
Border Cities, including Windsor.	17.5	5	22.5	26	16.5

Third Grade Gasoline

Toronto.	....	5	....	23.5	18.5

Regular Gasoline

MANITOBA

Winnipeg.	19.5	5	24.5	28	13.5

SASKATCHEWAN

Regina.	23.5	5	28.5	32.5	17

ALBERTA

Edmonton.	24.5	5	29.5	33	18
Calgary.	21	5	26	29.5	14.5

BRITISH COLUMBIA

Vancouver.	21	5	26	28	22

QUEBEC

Regular Gasoline

	T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Montreal.	17.5	5	22.5	26	19.5
Quebec City.	20.5	5	25.5	29	21.5
Three Rivers.	20.5	5	25.5	29	21.5

NEW BRUNSWICK

St. John.	20	5	25	29	22
Moncton.	20	5	25	29	22

NOVA SCOTIA

Halifax.	20	5	25	29	22

PRINCE EDWARD ISLAND

Charlottetown.	20	5	25	29	22

NAPHTHA PRICES

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago.	11.7	13.7	15.2
Detroit.	14.4	15.9	16.7
Kansas City.	†12.9	†14.4	†15.2
Milwaukee.	13.4	*16.9	*17.7
Minneapolis.	**17.7	**19.2	**20
St. Louis.	12.6	14.1	14.9
New York.	...	12	17
Boston.	...	17	17

*Includes 2c state tax. †Includes 1c city tax.
**Includes 3c state tax.

Petroleum Spirits (Solvent)

Tank Cars (F.o.b. refinery or seaboard terminal)	
New York Harbor.	9.00
Philadelphia district.	8.50–9.00
Providence.	9.50
Tank Wagon or Steel Barrels	
New York City.	12
Syracuse.	17
Rochester.	14
Buffalo.	‡14
Providence.	17
Boston.	17
Bridgeport.	15
Newark.	16
Philadelphia.	13
Lancaster.	17
Altoona.	17
Baltimore.	16

Note: 2c off above t.w. prices to large buyers in some instances.
‡Buffalo price is net.

Aviation Gasoline Prices

Following are tank wagon prices of aviation gasoline in principal marketing territories showing state and municipal taxes:

S. O. NEW JERSEY

Prices in Effect Nov. 30, 1931

	T.W.	Tax	Total T.W.
Newark, N. J.	14.9	*	14.9
Baltimore, Md.	14.9	4	18.9
Washington, D. C.	15	2	17

*New Jersey road tax of 3c does not apply on aviation gasoline, exemption being claimed at time of purchase.

All above prices are on Stanavo Aviation Gasoline.

COLONIAL BEACON OIL CO.

New York City.	16	2	18
Boston, Mass.	18	3	21

S. O. PENNSYLVANIA

Philadelphia, Pa.	15	3	18
Pittsburgh, Pa.	15	3	18
Altoona, Pa.	15	3	18

S. O. OHIO

Thru Ohio.	14	4	18

Discounts given by S. O. Ohio: For delivery to airports only; 2,000 gals. or over per month, 1c per gal.; 6,000 gals. or over per month, 2c; 12,000 gals. and over per month, 3c; 24,000 gals. and over per month, 4c.

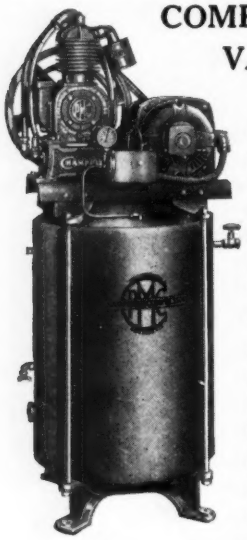
S. O. INDIANA

Chicago.	15	3	18
Indianapolis, Ind.	15.3	4	19.3
Detroit, Mich.	15.8	3	18.8
Milwaukee, Wis.	15.1	2	17.1
Minneapolis, Minn.	16.2	3	19.2
St. Louis, Mo.	14.4	2.5	16.9
Kansas City, Mo.	14.9	3	17.9
Fargo, N. D.	17.9	3	20.9
Huron, S. D.	16.3	4	20.3
Wichita, Kan.	13.8	3	16.8

In S. O. Indiana territory, buyer pays state and city taxes on aviation gasoline, and if he can get a refund from the state, he does so. Kansas City tax of 3c includes 1c city tax; St. Louis tax of 2.5c includes ½c city tax.

(*Continued on page 92*)

WORLD'S
CHAMPION
COMPRESSOR
VALUE!



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INDUSTRIAL OIL CORP.
Warren, Pa.

Crude Oil Prices (in Effect Nov. 30, 1931)

Crude prices for the whole year in OIL PRICE HANDBOOK published annually

EASTERN FIELDS

Posted by Joseph Seep Purchasing Agency

All Penna. Grade Crude except Corning. Effective Nov. 1, 1931)

Bradford—Alleghany district (Penna and New York, posted by Tide Water Pipe Co., Ltd.).....$2.00

Penna Grade Oil in National Transit Lines (Postings discontinued by Seep Agency)

Penna. Grade Oil in Southwest Penna. Pipe Lines 1.70

Penna. Grade Oil in Eureka Pipe Lines (West Virginia)..... 1.60

Penna Grade Oil in Buckeye Pipe Lines (Macksburg, O.)..... 1.50

Corning Grade in Buckeye Pipe Lines (Ohio).. 0.85
(Effective Nov. 7, 1931)

Ragland in Cumberland Pipe Lines (Kentucky) (Effective Jan. 9, 1929).....$0.60

Posted by Other Companies

Ashland Refining Co.:
Somerset in Ashland lines (Kentucky) (Effective Nov. 4, 1931).....$0.80

Stoll Oil Refining Co.:
Stoll Pipe Line Oil (Kentucky) (Effective Nov. 9, 1931).....$0.75

MICHIGAN

(Posted by Pure Oil Co.)

Midland, Midland County (Aug. 23, 1931)..$0.73

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective Nov. 3, 1931

Wooster	$1.15	Princeton	$0.95
Lima	1.00	Illinois	0.95
Indiana	0.60	West Kentucky	0.90

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Effective Nov. 3, 1931

Petrolia, Ont.....$1.90
Oil Springs, Ont.....$1.97

Effective Aug. 25, 1931

Turner Valley, Alta.:

40-44.9	$1.50	50 and above	$2.65
45-49.9	$2.08		

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Stanolind Crude Oil Purchasing Co. (In Oklahoma, Kansas, North and North Central Texas)

(Effective Nov. 2, 1931)

Below 29	$0.61	35-35.9	$0.75
29-29.9	0.63	36-36.9	0.77
30-30.9	0.65	37-37.9	0.79
31-31.9	0.67	38-38.9	0.81
32-32.9	0.69	39-39.9	0.83
33-33.9	0.71	40 and above	0.85
34-34.9	0.73		

Effective Nov. 2, 1931, above prices were met by these companies: Humble, The Texas Co., Continental Oil, Barnsdall and Phillips Petroleum; on Nov. 3 by Carter Oil, Sinclair, Pure Oil and Gulf.

Humble's prices affect Ranger, North Texas, Mexia, Powell, Boggy Creek, Wortham, Currie and Moran, Tex.

East Texas

Discontinued by Humble, June 3.

Magnolia posts $0.83 effective Nov. 2, 1931.

Magnolia Petroleum Co.
(In Oklahoma and Texas)
Effective Nov. 2, 1931

Oklahoma:

Cushing, Morrison, Oklahoma City, Seminole
Wewoka and Yale.....$0.83
Cement, Duncan and Walters..... 0.75
Healdton..... 0.52
Hewitt and Graham..... 0.67

Texas:

North and North Central:
Archer, Burkburnett, Comanche, Electra, Henrietta, Olden and Stephens.....$0.83
East Texas.....$0.83

East Central Texas:
Thrall (Effective July 24, 1931).....$0.40

Central Texas:
Mexia, Wortham, Corsicana Light, Panola county and Lytton Springs.....$0.79

Panhandle:
Gray county.....$0.73
Carson-Hutchinson counties.....$0.66

West Texas:
Winkler, Crane, Upton, Howard, Glasscock, and Mitchell counties.....$0.50

South Texas:
Mirando.....$0.75
Darst Creek..... 0.60
Corsicana heavy and Luling..... 0.49

Louisiana-Arkansas
Effective Nov. 4, 1931

North Louisiana:

Bull Bayou.....$0.83
Cotton Valley..... 0.61
Haynesville..... 0.65
Pine Island..... 0.73

Arkansas:

El Dorado and Rainbow.....$0.63
El Dorado, East Field (Calion).....$0.55
Smackover.....$0.55

PANHANDLE TEXAS

Humble Oil & Refining Co.

Effective Nov. 2, 1931

Hutchinson-Carson Counties		Gray County	
Below 35	$0.56		$0.61
35-35.9	.58		.63
36-36.9	.60		.65
37-37.9	.62		.67
38-38.9	.64		.69
39-39.9	.66		.71
40 and above	.68		.73

Above prices met by The Texas Co. on Nov. 2 in Hutchinson, Carson and Gray counties.

WEST TEXAS and NEW MEXICO

Humble Oil & Refining Co.

Effective Nov. 2, 1931

Pecos, Winkler, Crane, Upton, Crockett, Ector, Howard and Glasscock Counties, Tex., and Lea county, N. Mex.....$0.50

Nov. 2, 1931, The Texas Co. same prices in Crane, Upton, Winkler and Lea counties as Humble.

SOUTH and SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)

Effective Nov. 2, 1931

Mirando.....$0.75
Salt Flat..... 0.60
Darst Creek..... 0.60
Pettus, Bee County..... 0.85

(Posted by The Texas Co.)

Effective Nov. 2, 1931

Markham.....$0.67

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado Crichton, De Soto, Sabine, Sarepta and Carterville.

Effective Nov. 4, 1931

Below 25	$0.53	33-33.9	.71
25-25.9	.55	34-34.9	.73
26-26.9	.57	35-35.9	.75
27-27.9	.59	36-36.9	.77
28-28.9	.61	37-37.9	.79
29-29.9	.63	38-38.9	.81
30-30.9	.65	39-39.9	.83
31-31.9	.67	40 and above	.85
32-32.9	.69		

Smackover.....$0.55
*Urania, La..... 0.55
†Stephens, Ark.:
Below 29.....$0.51
29 and above..... 0.54

*Urania posted by Louisiana Oil Refining Corp.

†Stephens posted by Atlantic Oil Producing Co. and Louisiana Oil Refg. Corp.

*GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective Nov. 2, 1931

Below 25	$0.70	33-33.9	$0.79
25-25.9	0.71	34-34.9	.80
26-26.9	.72	35-35.9	.81
27-27.9	.73	36-36.9	.82
28-28.9	.74	37-37.9	.83
29-29.9	.75	38-38.9	.84
30-30.9	.76	39-39.9	.85
31-31.9	.77	40 and above	.86
32-32.9	.78		

Refugio heavy.....$0.75

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Raccoon Bend, Refugio light, Sour Lake, Spindletop, Sugarland and West Columbia.

The Texas Co. met above Gulf Coastal schedule Nov. 2.

New 1000-Barrel Plant Complete in Canada

TORONTO—A new 1000-barrel refinery has been completed at Manchester, a suburb of Calgary, and will be operated by Bell Refining Co. Ltd., a new organization controlled in Alberta and capitalized at $100,000. Floyd Huff, formerly general manager of Regal Oil & Refining Co., will act in a similar capacity with the new concern.

The plant will use 75 per cent Turner Valley naphtha, blended with 25 per cent of southern petroleums in the manufacture of its product, and is expected to provide a market for Turner Valley independent operators. Products of the refinery, which will bear the name "Bell," will include gasoline, kerosine, distillate, gas oil and fuel oil.

A. C. Spooner, a pioneer Alberta oil man is president of the Bell company, whose refinery constitutes the third plant of its kind in Calgary now serving the Alberta oil industry, the others being the large plant of Imperial Oil, Ltd., and that of Regal Oil & Refining Co.

TORONTO—Production of crude oil in Canada during the first nine months of this year gained 26 per cent, totaling 1,278,483 barrels. Output in September declined slightly, to 101,500 barrels, as compared with 103,315 barrels in August, and 136,760 barrels in September, 1930.

TULSA, Nov. 28.—L. W. Witte, assistant traffic manager of the Mid-Continent Petroleum Corp., was elected vice-president of the Tulsa Traffic Club at its annual meeting Nov. 27. Walter L. Meyers, M. K. & T. oil representative, was elected president, succeeding C. J. Payton, Sinclair Oil & Gas Co. traffic manager.

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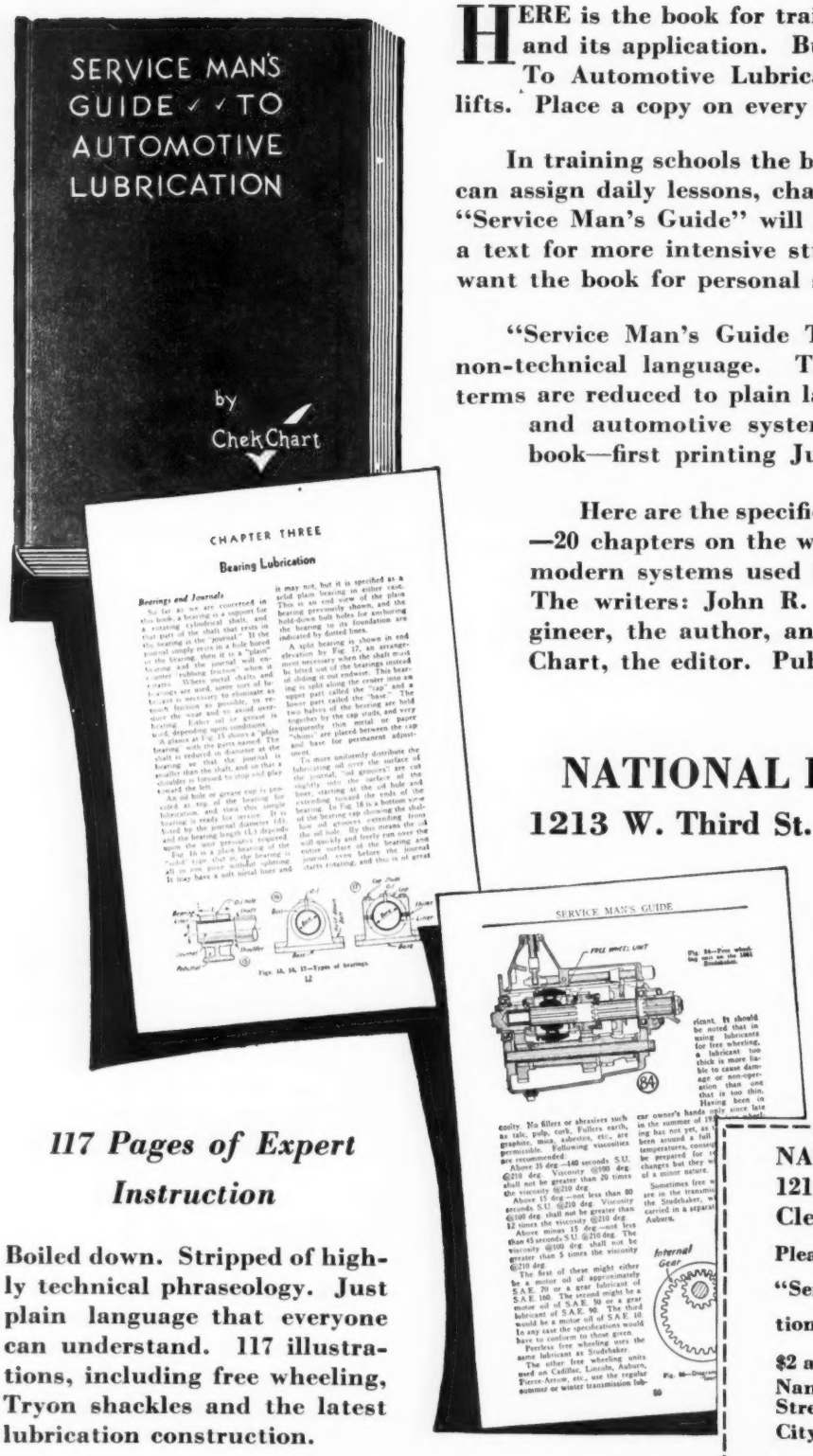

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Crude Oil Prices (in Effect Nov. 30, 1931)

(Prices are per barrel at the well)

(Crude Oil Prices for the whole year in OIL PRICE HANDBOOK published annually)

ROCKY MOUNTAIN FIELDS

(Posted by Midwest Refining Co.)

Effective Nov. 2, 1931

Salt Creek, Wyo.:

Below 29°	$0.61	32-32.9	$0.69
29-29.9	0.63	33-33.9	0.71
30-30.9	0.65	34-34.9	0.73
31-31.9	0.67	35-35.9	0.75
36-36.9	$0.77	39-39.9	$0.83
37-37.9	0.79	40 and above	0.85
38-38.9	0.81		

Effective Nov. 3, 1931

Cat Creek, Mont.	$1.05
Hogback, N. Mex.	0.80
Hobbs, N. Mex. (Effective Nov. 2, 1931)	0.50

(Posted by Ohio Oil Co.)

Effective Nov. 3, 1931

Elk Basin, Wyo.	$1.05
Grass Creek Light	1.05
Mig Muddy	0.83
Lance Creek	1.05
Rock Creek	0.85
Sunburst, Mont.	1.00

CALIFORNIA CRUDE

††Standard Oil Co. of California

Effective June 19, 1931

Gravity	Signal Hill *Seal Beach *Alamitos Heights	Huntington Beach	Inglewood	Playa del Roy	Olinda-Brea Canon	Elwood Terrace	Torrance	Richfield	†Whittier †La Habra Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	**Athens **Roecrans **Dominguez	**Santa Paula	**Orcutt
14-19.9	$0.65	$0.65	$0.65	$0.65	$0.65	....	$0.65	$0.65	$0.65	$0.65	....	$0.55	$0.55	$0.55	$0.55	$0.55	....	$0.65	$0.55
20-20.9	.65	.65	.66	.65	.66	....	.65	.65	.65	....	....	.55	.55	.55	.55	....	....	.65	.56
21-21.9	.65	.65	.68	.66	.67	....	.65	.66	.65	.65	....	....	.55	.57	.55	.55	....	.65	.57
22-22.9	.65	.66	.70	.67	.68		.66	.68	.65	.65	....	....	.56	.59	.55	.55	....	.65	.59
23-23.9	.67	.68	.72	.68	.70		.67	.70	.65	.66	....	....	.58	.60	.55	.55	....	.65	.61
24-24.9	.69	.70	.74	.69	.72		.68	.72	.65	.67	$0.65	....	.61	.62	.55	.55	$0.69	.66	.63
25-25.9	.71	.72	.76	.70	.74		.70	.74	.65	.69	.65	....	.64	.64	.57	.55	.71	.68	.65
26-26.9	.73	.74	....		.76	....	....	....	....	.71	.65	....	.66	.66	....	....	.73	.70	.67
27-27.9	.75	.76	....		.78	....	....	....	....	.73	.68	....	.68	.67	....	....	.75	.72	....
28-28.9	.77	....	....		.80	....	....	....	....	.75	.71	....	.71	.69	....	....	.77	.74	....
29-29.9	.79	....	....		....	....	....	....	....	.77	.73	....	.74	.71	....	....	.79	.76	....
30-30.9	.81	....	....		....	....	....	....	....	.79	.75	....	.76	.72	....	....	.81	.78	....
31-31.9	....	....	....		....	....	....	....	....	....	.78	....	....	....	....	....	.83	....	....
32-32.9	....	....	....		....	....	....	....	....	....	.80	....	....	....	....	....	.85	....	....
33-33.9	....	....	....		....	$0.79	....	....	....	....	.83	....	....	....	....	....	.87	....	....
34-34.9	....	....	....		....	.81	....	....	....	....	.86	....	....	....	....	....	.89	....	....
35-35.9	....	....	....		....	.84	....	....	....	....	.87	....	....	....	....	....	....	....	....
36-36.9	....	....	....		....	.87	....	....	....	....	....	....	....	....	....	....	....	....	....

*Seal Beach and Alamitos Heights prices end with $0.75 for crude 27 and above.

†Whittier and La Habra crude ends with 22-22.9 gravity.

**Posted by Union Oil Co. of California, effective June 20, 1931.

††Postings on Kettleman Hills, Ventura Avenue, Athens-Rosecrans and Dominguez discontinued by Standard. Kettleman Hills, 30 and above, posted at 66 cents by Associated Oil Co. and General Petroleum Co., June 19, 1931.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	Nov. 30	Nov. 23
Soda Ash Light 58% bags, cwt.	$1.15-1.38	$1.15-1.38
Silicate of Soda 60 deg. drums, cwt.	$1.75-1.90	$1.75-1.90
Silicate of Soda 40 deg. tank cars, cwt.	$0.70	$0.70
Silicate of Soda 40 deg. drums, cwt.	$1.00	$1.00
Sal Soda wks.	$0.90-1.20	$0.90-1.20
Caustic Soda 76% solid, cwt.	$2.25-2.50	$2.25-2.50
Sulfuric Acid 60 deg. tank cars, f. o. b. shipping point per ton	$11.00-12.50	$11.00-12.50
Sulfur, flowers of, cwt.	$3.10-4.00	$3.10-4.00
Liquid Chlorine, tank cars, wks., lb.	1.75	1.75

Compounder's Supplies

Vegetable Oils		
Linseed carloads, spot, lb.	7.60	7.60–7.80
Tanks, spot	7.00	7.00–7.20
Soya Bean, Tank, coast, lb.	5.00	5.00
Oleic Acid		
Distilled, tanks, lb.	6.50	6.50
Distilled, bbls., lb.	7.375	7.375
Saponified, tanks, lb.	6.75	6.75
Saponified, bbls., lb.	7.625	7.625
Lard Oils		
Prime Winter Strained, lb.	12.00	12.00
Extra Winter Strained, lb.	8.25	8.25
Extra, lb.	8.00	8.00
Extra No. 1, lb.	7.50	7.50
No. 1, lb.	7.25	7.25
No. 2, lb.	7.00	7.00
Tallow oil, lb.	7.00	7.00
Neatsfoot Oil		
Pure, bbls., lb.	9.75	9.75
Extra, bbls., lb.	7.50	7.50
No. 1 bbls., lb.	7.25	7.25
Cold Pressed, lb.	13.75	13.75
Fish Oils		
Menhaden Oil		
Light Pressed, gal.	33–34	33–34
Light Pressed, tank cars, N. Y., gal.	27–28	27–28
Yellow bleached, gal.	36–37	36–37
Whale, extra winter bleached, gal.	61–63	61–63
Naval Stores		
Steam distilled turpentine, N. Y., gal.	43	43
Steam, distilled turpentine, Savannah, gal.	40	40
Gum turpentine, N. Y., gal.	50	50
Gum turpentine, f.o.b. cars Savannah, gal.	44	44
Wood Rosin, N. Y., bbl.	$4.95	$4.95
Wood Rosin F, Savn'h, bbl.	$4.75	$4.75
Gum Rosin B, N. Y., bbl.	$3.90	$4.05
Gum Rosin B, f.o.b. cars Savannah, bbl.	$3.15	$3.30
Rosin oil, pure, gal.	47	47
Rosin, oil, compounded, gal.	41	41
Pine Tar		
Kiln burnt, bbl.	$10.00-11.00	$10.00-11.00
Retort, bbl.	$11.00-12.00	$11.00-12.00
Alcohol		
Denatured Formula 5, in tanks, per gal.	24	24

Oil Stocks and Finances

Standard Oil 1931 Dividends Fall But Are Larger Than in 1928

NEW YORK, Nov. 28

STANDARD Oil group of companies will pay $220,739,182 in cash dividends in 1931, according to a compilation of Carl H. Pforzheimer & Co., New York, specialists in Standard Oil securities. This amount compares with $286,526,728 in 1930, the record year. The decline in 1931 is $65,927,546 from the 1930 high mark, or approximately 23 per cent.

The 1931 payments, however, are larger by about $2,000,000 than the 1928 payments.

Allowance has been made in the compilation for the regular dividends of two companies of the group which have not yet taken action on fourth quarter dividends.

Two companies accounted for more than one-third of the total decline in payments for 1931 as compared with 1930. Imperial Oil, Ltd., in the final quarter of 1930 paid an extra dividend of 50 cents a share or $13,278,748 while no extra dividend was paid in the last quarter of 1930. Prairie Pipe Line Co. paid $6,075,000 in dividends in 1931 against $20,250,000 in 1930, a decrease of $14,175,000.

Ohio Oil Co. discontinued payments on its common stock in the second quarter of 1931 as did Standard Oil Co. of Kansas. Standard Oil Co. of Indiana reduced payments in the third quarter one-half, from 50 cents a share quarterly to 25 cents a share. Socony-Vacuum Corp. in the final quarter of 1931 reduced the dividend to 25 cents a share against 40 cents a share paid in the third quarter which was the initial dividend following the merger of Standard Oil Co. of New York and Vacuum Oil Co.

Standard Oil Co. of New Jersey paid the same dividends in 1931 as in 1930, namely 25 cents extra and 25 cents regular each quarter, or $2 per annum. Standard Oil Co. of California also made the same cash payments, $2.50 per share per annum, although the 2 per cent stock dividend which was distributed in the two previous years was not declared in 1931.

Cash dividend payments of the group for the fourth quarter of 1931 will amount to $48,530,230, compared with $51,263,688 in the second quarter and $83,047,644 in the fourth quarter of 1930, which was a record for any quarter in the history of the group.

The smaller cash dividend payments of the Standard Oil companies for 1931 reflect of course, the unfavorable earnings of the oil industry. However, the record of payments seems favorable in view of the fact that only one major company of the group passed its dividend and only two reduced their payments during the year.

Standard Oil Group's Dividends the Last Five Years

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year
1931	$63,101,997	$57,843,667	$51,263,688	$48,530,230	$220,739,182
1930	66,687,168	68,555,901	68,271,015	83,012,644	286,526,728
1929	63,101,701	66,053,389	65,426,981	75,063,856	269,645,927
1928	48,927,670	57,694,206	50,068,102	62,050,357	218,740,335
1927	55,873,413	54,291,615	47,728,440	55,724,472	213,617,940

Oil Better Off Than Other World Goods, Says Shell

LONDON, Nov. 23.—Expectations that the directors of the Shell Transport & Trading Co., the $180,000,000 combine, might pass its interim dividend have been confirmed by an announcement of the board's inability to make an estimate of the results of the year's working sufficiently reliable to justify the declaration of an interim dividend "owing to the conditions ruling at present in the petroleum industry and in general throughout the world."

A year ago an interim payment of 10 per cent was recommended. That was followed by a final 7½ per cent, making 17½ per cent for 1930, as against 25 per cent for each of the four preceding years.

What return will be made for 1931 must be a matter of conjecture. For the time being the directors feel that a decision as to the dividend can be made only after final results for the whole year are received from the different companies in which the combine is interested.

Accompanying the announcement are some interesting comments on the oil situation. Stockholders are reminded that while the steady increase in world consumption has suffered a setback, oil is in a better position than most other commodities. Moreover, the use of oil products has become more and more diversified even in times of trade stagnation. Important economies will, it is stated, provide considerable compensation for low prices, while to meet any new situation large sources of the group's production at present shut in could be re-opened at short notice without further capital expenditure.

Meanwhile, the policy of keeping assets and facilities completely up to date and writing off everything that does not fulfill this condition has been steadily maintained. Further, Shell has today at its disposal $100,000,000 in liquid cash, in addition to its world-wide stocks financed with its own funds. The earning capacity of the reserves, the directors feel certain, is as great as ever, and the present state of affairs is only temporary. Such reassuring statements should help to mitigate any disappointment caused by the passing of the dividend.

A similar announcement has been made in Amsterdam by the Royal Dutch Co. No interim dividend is to be paid, the directors having decided to wait until the results for the full year are available and until the industrial situation becomes clearer. A year ago an interim dividend of 10 per cent was paid, the distribution for the whole of 1930 having been 17 per cent, against 24 per cent for 1929.

Standard of Indiana Maintains Wages

CHICAGO, Nov. 26.—Standard Oil Co. of Indiana is striving to maintain wages, President E. S. Seubert told a closed meeting of employes and officials in October, it is disclosed in the current issue of the *Stanolind Record*.

"We want if possible, to weather this storm," Mr. Seubert is quoted, "and be able to say that we were among the corporations that did not cut the wage scale. The situation may force us eventually to resort to that extreme measure, but I want to say that if we do come to that it will be under the force of necessity, and every one of us will share in the sacrifice to be made."

* * *

NEW YORK, Nov. 23.—Tide Water Oil Co. has informed salaried employes that salaries of officers and employes will be reduced 5 to 20 per cent beginning Jan. 1. The reduction was made necessary by long unfavorable conditions in the oil industry, Axtell J. Byles, president, stated.

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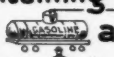
This is the Tank Car containing 8,000 Gals. just bought which must be unloaded  at once to escape Demurrage Charges. Your takes your and climbs on your . He finds will take 5,000 Gals. and , 3,000 Gals. You start unloading into and your frequently climbs up on to see how Things are. As gets full however, your is busy elsewhere and so overflows. You lose a lot of $'s worth of good Gasoline and greatly increase your Fire Hazard.
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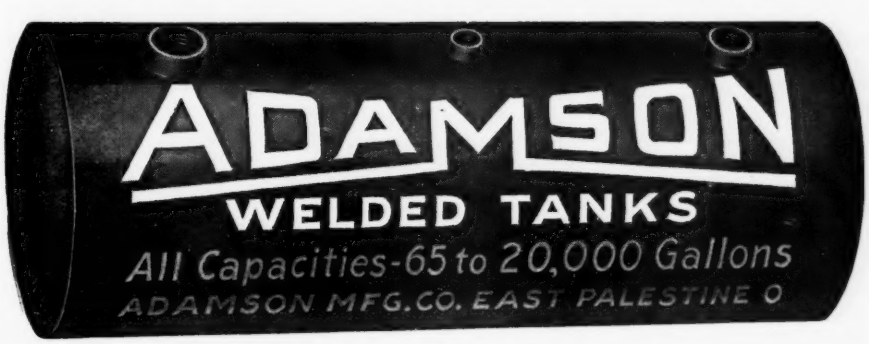

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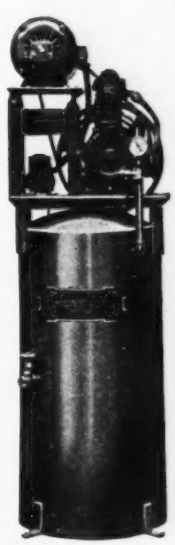

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Transactions in Oil Shares on New York Stock Exchange

1930 High	1930 Low	1931 High	1931 Low	Listed Shares	Par Value	Company	Div. Rate Period	Last Div. Paid	Transactions Week Ended Nov. 28 Sales Shares	High	Low	Last	Week's Change
31 1/4	16 1/4	23	13	922,075	N.P.	Amerada Corp.	50cQ	Oct. 30, 31	2,050	16	15 1/2	15 3/4	— 1/4
37	5 1/2	12 3/8	2	209,180	N.P.	American Republics Corp.	....	.....	300	2 3/8	2 1/8	2 1/8	+ 1/8
51	30	31	9	2,240,000	$25	Associated Oil Co.	....	June 30, 31	270	10 3/4	10 1/2	10 1/2	+ 1/4
51 3/8	16 5/8	23 5/8	10	2,696,650	25	Atlantic Refining Co.	25cQ	Sept. 15, 31	9,500	12 1/4	11	11 1/8	— 5/8
34	8 5/8	14 1/2	4 3/4	2,257,705	25	Barnsdall Corp. A	....	May 11, 31	9,000	6 7/8	6	6 1/4	— 5/8
35	21	25	12	2,060,966	25	California Petroleum Corp.	....	Jan. 1, 29	10	9	9	9	— 3
20 5/8	8 3/4	10 1/4	7 1/2	1,444,970	N.P.	Colonial Beacon Oil Co.	....	.....	100	9	9	9	0
30 1/2	7 3/4	12	5	4,720,640	N.P.	Continental Oil Co. (Del.)	....	.....	9,000	7 1/2	6 5/8	6 5/8	— 3/4
71 1/2	22 3/8	47	9 5/8	413,333	N.P.	General Asphalt Co.	50cQ	Sept. 15, 31	5,400	15 1/2	14 1/4	14 3/8	— 7/8
116 7/8	29 1/4	68 1/2	19	96,475	$100	Houston Oil Co.	....	.....	4,800	25 1/4	21	21	— 2 3/4
11 3/4	6 5/8	14 1/4	4	675,434	25	do new	....	.....	5,200	5 1/8	4 1/4	4 3/8	— 5/8
28 3/8	3	4 5/8	1 5/8	556,546	10	Indian Refining Co.	....	Dec. 15, 20	800	2	1 7/8	1 7/8	— 1/4
12	3 1/2	4 1/2	1 3/4	1,309,100	N.P.	Louisiana Oil Refg. Corp.	....	.....	800	2	1 1/2	1 1/2	— 1/8
90	66	55	34	40,000	$100	do pfd.	$1.62 1/2Q	Nov. 16, 31	.....	....	....	....	....
10 3/8	1 3/4	3 3/4	1/2	330,000	N.P.	Maracaibo Oil Exploration Co.	....	.....	1,600	7/8	7/8	7/8	— 1/4
182	150	171	90	459,428	$100	Mexican Petroleum Co.	....	Apr. 20, 31	.....	....	....	....	....
100	100	100	100	120,000	100	do pfd.	$2Q	Oct. 20, 31	.....	....	....	....	....
33	11	16 3/4	5	1,857,912	N.P.	Mid-Continent Petroleum Corp.	....	Feb. 16, 31	12,000	7 1/4	6	6 3/4	— 1/8
32	16	19 1/2	6 1/2	6,648,052	N.P.	Ohio Oil Co.	....	Mar. 14, 31	6,900	8 1/4	7 1/2	7 1/2	— 3/8
64 1/4	42	35 1/2	20	1,000,000	$50	Pan Amer. Pet. & Trans. Co.	40cQ	Oct. 20, 31	.....	....	....	....	....
67 1/2	30	36 1/2	20	2,473,916	50	do B non-voting	40cQ	Oct. 20, 31	.....	....	....	....	....
12 3/4	1 3/4	4 1/4	3/4	199,370	N.P.	Panhandle Prod. & Refg. Co.	....	.....	100	1	1	1	0
80	47 1/2	20	9 1/2	25,666	$100	do pfd.	....	July 2, 23	.....	....	....	....	....
27 1/4	5 1/8	10 7/8	4 1/4	2,551,084	N.P.	Petroleum Corp. of America	....	June 1, 31	10,400	5 7/8	5 1/4	5 1/4	— 1/2
44 3/4	11 1/2	16 5/8	4 3/4	4,419,262	N.P.	Phillips Petroleum Co.	....	Jan. 2, 31	15,200	7	6	6	— 1
2 1/2	1/2	1 1/2	5/8	1,184,917	$25	Pierce Oil Corp.	....	.....	200	1/2	3/8	1/2	+ 1/2
52	7 1/2	23 3/4	5 1/8	150,000	100	do pfd.	....	Feb. 1, 22	1,000	7 5/8	6 1/2	6 1/2	— 1
7 1/8	1 3/8	3 3/8	7/8	2,500,000	N.P.	Pierce Petroleum Corp.	....	Feb. 16, 31	2,800	1 3/8	1	1	— 1/4
54	11 1/4	20 3/8	5 1/2	2,441,432	$25	Prairie Oil & Gas Co.	....	Mar. 31, 31	2,400	7 5/8	7 1/4	7 1/4	— 1/4
60	16 5/8	26 1/2	7 5/8	4,050,000	25	Prairie Pipe Line Co.	....	July 1, 31	4,900	9 1/2	8 1/8	8 1/4	— 3/4
11 7/8	1	6	1 1/2	749,017	50	Producers & Refiners Corp.	....	Sept. 15, 23	400	1 1/2	1 1/2	1 1/2	0
40	11 1/2	16	4 1/4	56,907	50	do pfd.	....	May 4, 25	30	5	5	5	— 1
27 1/4	7 5/8	11 7/8	5	3,038,370	25	Pure Oil Co.	....	Sept. 1, 30	4,100	5 3/4	5 1/2	5 3/4	0
114 1/4	90 1/2	101 7/8	64 1/2	130,000	100	do 8% pfd.	$2Q	Oct. 1, 31	70	70	70	70	— 1
28 1/4	4 1/8	6 3/8	7/8	2,126,250	N.P.	Richfield Oil Co. (California)	....	Sept. 1, 30	2,600	1	7/8	7 1/8	— 1/8
25 3/4	5	10 1/4	1 1/4	1,235,814	N.P.	Rio Grande Oil Co.	....	July 25, 30	18,900	2 3/8	†1 1/4	1 3/8	— 1 1/4
56 1/2	36 7/8	42 5/8	13 1/2	617,443	$13.40	Royal Dutch Co. (N. Y. Shares)	93.85c	Aug. 4, 31	3,700	17	15 5/8	16	— 5/8
37	9 3/4	20 3/4	5 1/2	1,244,383	N.P.	Seaboard Oil of Del.	....	Oct. 15, 24	8,600	8 5/8	7 1/4	7 1/4	— 3/4
48 3/8	26	34	9 1/4	63,852	£2	Shell Transp. & Trading Co.	72.6c	July 23, 31	110	10 1/8	10	10	— 2
25 1/2	5 1/4	10 1/4	3 1/4	13,070,625	N.P.	Shell Union Oil Corp.	....	June 30, 30	7,300	4 1/2	4 1/8	4 1/4	— 1/4
106 1/4	55	78	23 5/8	400,000	$100	do pfd.	....	July 1, 31	1,400	29	28 1/2	28 1/2	— 1
37	5 5/8	11	4 3/4	869,271	10	Simms Petroleum Co.	....	Sept. 15, 30	1,800	5 1/2	5 1/8	5 1/8	— 1/8
32	9 3/4	15 7/8	5 1/2	6,103,263	N.P.	Sinclair Cons. Oil Corp.	....	Apr. 15, 31	23,100	7 1/4	6 3/8	6 1/2	— 1/4
112 1/4	86	103	77	141,294	$100	do pfd.	$2Q	Nov. 14, 31	100	77	77	77	— 1
42	10 1/8	12 7/8	3 1/8	1,000,069	25	Skelly Oil Co.	....	Dec. 15, 30	1,400	4 1/4	4	4	— 1/8
99 3/4	42	62	10	120,000	100	do pfd.	....	May 1, 31	1,000	17	16	16	— 1
.....	....	21	12 1/8	31,273,328	25	Socony Vacuum Corp.	40cQ	Sept. 15, 31	30,725	13 1/8	11 7/8	11 7/8	— 1 1/8
106 3/8	98	105 1/4	88 1/2	764,935	100	S. O. Export Corp. pfd.	$2.50S.A.	June 30, 31	600	98 3/4	95 1/2	98 1/4	+ 3
75	42 1/4	51 3/4	28 5/8	13,102,900	N.P.	S. O. California	62 1/2cQ	Sept. 15, 31	29,800	32 3/4	30	30 1/8	— 1 1/2
49	14 3/8	19	8 1/4	320,000	$25	S. O. Kansas	....	Mar. 16, 31	1,000	11 3/4	11 1/4	11 1/4	— 1/2
84 7/8	43 1/2	52 1/2	28 1/4	25,639,466	25	S. O. New Jersey	††25cQ	Sept. 15, 31	47,000	34	31 3/4	31 3/4	— 5/8
70	39	45 1/4	26 3/4	1,544,349	N.P.	Sun Oil Co.	25cQ	Sept. 15, 31	200	31	30 3/4	30 3/4	— 1/2
108 1/2	97 3/4	104 1/2	88 3/4	100,000	$100	do pfd.	$1.50Q	Dec. 1, 31	.....	....	....	....	....
9 3/8	3/4	1 3/4	1/2	776,979	N.P.	Superior Oil Corp.	....	.....	1,000	1/2	1/2	1/2	— 1/8
60 1/2	28 1/4	36 1/4	15	9,851,211	$25	The Texas Corp.	50cQ	Oct. 1, 31	24,200	18 1/2	16 5/8	16 3/4	— 1 3/8
14 1/2	4	6 1/2	2 1/2	930,432	10	Texas Pacific Coal & Oil Co.	....	Dec. 31, 29	1,000	3	2 7/8	2 7/8	— 1/2
17 3/4	5 7/8	9	3 1/2	5,997,872	N.P.	Tide Water Associated Oil Co.	....	Feb. 16, 31	9,100	3 3/4	3 1/2	3 1/2	— 1/4
89 3/4	53	68	20 1/2	732,649	$100	do pfd.	$1.50Q	Oct. 1, 31	100	30	26 1/2	29	+ 1
31	12	18	10 1/2	2,191,823	N.P.	Tide Water Oil Co.	....	June 30, 31	.....	....	....	....	....
94 7/8	68	83	35	199,446	$100	do pfd.	$1.25Q	Nov. 16, 31	500	44	41	44	+ 1
50	20 1/8	26 5/8	11 3/4	2,225,302	25	Union Oil Co. of California	50cQ	Nov. 10, 31	4,200	16 1/4	15 1/4	15 3/8	— 1/8
38 1/2	23	25 1/8	18 1/2	1,254,048	N.P.	Union Tank Car Co.	40cQ	Dec. 1, 31	500	19	18 1/2	18 1/2	— 1/2
27	4 1/4	7 3/8	1	769,531	N.P.	Warner Quinlan Co.	....	July 3, 30	100	2 1/8	2 1/8	2 1/8	— 3/8
21	6 1/2	9 3/4	3	428,967	N.P.	H. F. Wilcox Oil & Gas Co.	....	May 10, 28	100	4 1/2	4 1/2	4 1/2	— 3/8

*New high †New low ††Also extra—S. O. New Jersey 25c. Total sales 329,465.

New York Bonds

Week Ending Nov. 27

	High	Low	Last	Change
Atlantic Refg. deb. 5s	97	96 3/4	96 3/4	— 1/4
Cal. Pet. 5s	73	71 1/2	72	—1
Cal. Pet. 5 1/2s	88	88	88	+ 3/4
General Pet. 5s	100 3/4	100	100 1/4	— 3/4
Humble Oil & Refg. 5s	100 1/4	100	100	— 1/8
Humble Oil & Refg. 5 1/2s	100 7/8	100 1/2	100 1/2	— 1/4
Pan Amer. P & T 6s	102 1/2	101 3/4	102 1/2	+ 3/4
Pan Amer. P & T 6s	20 1/4	20 1/4	20 1/4	0
Phillips Pet. 5 1/4s	60	57	57	—3
Pure Oil 5 1/2s	82 5/8	79 1/2	79 1/2	—4
Pure Oil 5 1/2s	81	79	79	—2
Richfield Oil of Calif. 6s	17 1/2	17 1/4	17 1/4	— 1/4
Shell Union Oil 5s	69 1/2	68	68	—2
Shell Union Oil 5s with war.	69 1/2	67	67	—2 1/2
Sinclair Con. Oil 7s	89 3/4	88	88	—1 5/8
Sinclair Con. Oil 6 1/2s	83 7/8	83 3/8	83 3/8	— 1/2
Sinclair Con. Crude 5 1/2s	99 3/4	99 1/8	99 1/2	— 1/4
Sinclair Pipeline 5s	98	96	96	—1 3/4
Skelly Oil 5 1/2s	58	56 1/4	57 3/4	+1 1/4
S. O. N. J. 5s	102 1/4	101 1/2	101 1/2	0
S. O. N. Y. 4 1/2s	96	94 1/2	94 3/4	—1 1/2
Union Oil of Calif. 6s A	102	100 1/8	100 1/8	—2 7/8
Union Oil of Calif. 5s C	93 3/4	93 3/4	93 3/4	—1 3/4
Union Oil of Calif. 5s War.	83 1/8	80	80	—3 1/2
Warner-Quinlan 6s	36 1/8	34 3/4	34 7/8	+1 3/8
White Eagle Oil 5 1/2s war.	102	101 1/2	101 1/2	— 3/4

Pittsburgh Stock Exchange

Transactions Week Ended Nov. 27, 1931

	Sales	High	Low	Last	Change Over Week
Ark. Nat. Gas	130	2 1/2	2 1/2	2 1/2	— 1/2
do pfd.	260	5 1/4	5 1/4	5 1/4	0
Devonian Oil	320	5 1/4	5	5	0
Lone Star Gas	2,727	9 5/8	9	9	— 1/2
do pfd.	25	90	90	90	0
Plymouth Oil	300	9 1/4	9	9	—1
Western Pub. Serv.	2,630	4 5/8	4	4 1/8	— 3/8

Pittsburgh Curb

Gulf Oil Corp. of Pa.	200	45 3/8	45 3/8	45 3/8	—5 7/8

Cleveland Stock Market

Nov. 30, 1931

	Bid	Asked	Last Sale
Canfield Oil	50	75 3/4	85
Fred G. Clark	1/2	7/8	3/4
National Refining	8 1/2	10	8
do pfd.	..	119	110

Aviation Gasoline Prices

(*Continued from page 85*)

S. O. LOUISIANA

	T.W.	Tax	Total T.W.
New Orleans, La.	18	6	24
Nashville, Tenn.	20	6	26
Memphis, Tenn.	19	6	25

2c per gal. discount off above posted retail t.w. prices to dealers and commercial consumers.

S. O. NEBRASKA

Omaha	16.25	4	20.25

2c per gal. refund to reseller.

CONTINENTAL OIL CO.

Denver, Colo.	13	4	17
Cheyenne, Wyo.	15	4	19
Helena, Mont.	19	5	24
Salt Lake City, Utah.	16.5	4	20.5
Albuquerque, N. M.	17	5	22
Boise, Ida.	19	5	24

S. O. CALIFORNIA

Phoenix, Ariz.	17.5	4	21.5
Los Angeles, Cal.	16.5	3	19.5
San Francisco, Cal.	17	3	20
Reno, Nev.	21	4	25
Portland, Ore.	17.5	4	21.5
Seattle, Wash.	17.5	3	20.5
Spokane, Wash.	21.5	3	24.5

Note: 4c per gallon added to t.w. price, in S. O. California territory, to customers taking delivery direct into the fuel tank of planes.

NEW YORK—The sixth world motor transport congress, sponsored by the International Automobile Manufacturers Association, will be held in Paris, in June, 1932. Problems to be discussed include the rail-motor co-ordination problem, motor vehicle taxation, and highway finance.

Stockholder Asks Receiver For Royalty Corp.

TULSA, Nov. 28.—Petition filed Nov. 27 in district court at Tulsa by S. M. Williams, asked that receiver be appointed for the Royalty Corp. of America, controlled by J. Edward Jones, New York. Mr. Jones has for several years been prominent in the royalty business. Mr. Williams is a member of the firm Williams Brothers, Tulsa, pipeline contractors.

The court, at the request of counsel for Williams, ordered that no transfer of funds or their withdrawal be made by the company from banks in Tulsa and restrained the disposition of property or removal of records. Hearing was set for Dec. 21.

Williams asserts that he is the owner of 2000 shares of stock in the royalty company and says that the stockholders have sustained large losses through the manner in which Jones has conducted the business. He asks for accounting by Jones and judgment for commissions and profits which he alleges Jones took; also for dissolution of contract under which Jones draws $25,000 annual salary.

With the corporation itself and Jones, Carl R. Blackman, who has represented Jones in Tulsa for several years is made party to the suit.

Federal court in Tulsa recently set aside the purchase by Jones of the Petroleum Royalties Co. from Frank H. Greer. That action was taken on protest of stockholders in the company Greer controlled. A board of trustees was named to manage the company.

Cities Service Reports Gain in Earnings

NEW YORK, Nov. 26.—Cities Service Co. reports a continued uptrend in earnings in October when net exceeded the September net by $226,000. However, net is still less than the net in the corresponding time in 1930. The October net to stock and reserves of the holding company was $1,554,953, compared with $3,377,201 in October, 1930.

In the 12 months ended Oct. 31, 1931, the company's net to stock and reserves was $24,799,935, compared with $50,240,555 the preceding 12 months. Net to common stock in the 12 months ended Oct. 31, 1931, was $17,438,354, compared with $42,879,029 the year before.

Sales of all refined petroleum products by Cities Service domestic marketing subsidiaries was 40 per cent larger the first nine months of 1931 than in the first nine months of 1930, the company reported.

THE OIL INDUSTRY EXCHANGE

Positions Wanted

SALES EXECUTIVE with thorough knowledge of oils; twenty years experience in refining, lubrication engineering and sales management, desires permanent connection. Aggressive. Always produced results. Eastern location preferred. Address Box 777.

AUTOMOTIVE LUBRICATION MERCHANDISING PLAN offered with services of experienced sales executive. Intelligent application eliminates low priced competition. Address Box 771.

TEN YEARS EXPERIENCE BUSINESS EXECUTIVE; Operating, distribution of petroleum products. Managerial ability and personality. Practical and technical training in oil business from coast to coast. Desires to join progressive oil company or organize oil company in United States or Canada. Write in confidence to Box 813.

FIFTEEN YEARS MARKETING AND SUPERVISING EXPERIENCE, MAJOR COMPANY. Desires connection with reputable marketer. Age 40. Best references. Address Box 814.

Situations Open

KANSAS REFINERY WISHES TO EMPLOY REFINERY ENGINEER competent through education and experience to supervise and handle engineering, construction and process work in plant. Must be familiar with pressure stills, high pressure boilers, steam generating turbines, etc. Reply giving full particulars, experience, education, salary expected, personal data. Address Box 812.

SERVICE STATION EXECUTIVE

Rapidly expanding independent company seeks man qualified to take full charge of management 20 retail service stations. Headquarters in Southern city. Must possess merchandising instinct, ability to handle detail work and past record of successful management of station operations. Submit detailed information including age, experience, past and present earnings, references. Replies strictly confidential.

Address Box 811.

Advertisers having box numbers should be addressed in care of National Petroleum News, 1213 West 3rd Street, Cleveland, Ohio, unless otherwise specified.

For Sale

FOR SALE OR RENT: Substantial well-built Oil Distributing Warehouse, having a bulk storage capacity of 60,000 gallons for Lubricating Oil enclosed; Underground gasoline storage of 60,000 gallons, and outside storage for Kerosene and Fuel Oil for 125,000 gallons; with 2 large garages, and complete equipment, situate in a progressive city of Eastern Penna. For particulars write BOX No. 810.

Professional Services

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on motor fuel, using standard methods and standard equipment. Special prices for monthly contract.
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Copy must reach us not later than Friday preceding date of issue.

All advertisements carried on this page are payable in advance.

Anglo-American Alters Board

LONDON, Nov. 23.—The Anglo-American Oil Co., the Standard Oil Co.'s British distributing subsidiary, has just announced the appointment of Frederick J. Wolfe to the chairmanship of the board of directors and the addition of J. B. R. Morton to the board. The complete directorate now consists of the above, James Hamilton, vice chairman, J. Wilkie Frye, and A. MacLean. The board is now entirely British.

Southland Royalty Nets 7 Cents a Share

NEW YORK, Nov. 26.—Southland Royalty Co. has reported net income of $77,193 after reserves and estimated federal income taxes for the nine months ended Sept. 30. The amount is equal to 7 cents a share on 989,970 no par shares of capital stock.

Standard Oil Stocks on New York Curb Market

1930 High	1930 Low	1931 High	1931 Low	Shares Issued	Par Value	Company	Div. Rate Period	Last Div. Paid	Transactions Sales Shares	Week Ended Nov. 28 High	Low	Last	Week's Change
25	11¼	16	6¼	40,000	$25	Borne Scrymser Co.	....	Oct. 15, 30	100	10	10	10	— 1
69	39⅞	56	39	200,000	50	Buckeye Pipe Line Co.	$1Q	Sept. 15, 31	200	40¼	40	40	— 4
184⅞	100¼	129½	88	120,000	25	Chesebrough Mfg. Co.	††$1Q	Sept. 30, 31	100	94¼	94¼	94¼	— ¾
7⅝	3	3½	1⅝	5,977,873	N.P.	Creole Petroleum Co.	....	.....	6,300	2¼	2⅛	2⅛	0
65¾	20¼	39	20⅜	30,000	50	Cumberland Pipe Line Co.	....	June 15, 31	50	26½	26½	26½	— 1½
54¾	26	36	19	50,000	100	Eureka Pipe Line Co.	$1Q	Nov. 2, 31	.....	....	....	....	....
6¾	2½	3	1	280,000	N.P.	Galena Oil Corp.	....	.....	.....	....	....	....	....
119	57¼	72	47¾	2,974,645	$25	Humble Oil & Ref'g. Co.	50cQ	Oct. 1, 31	2,700	52½	50⅛	50⅛	— 1⅞
30	15	18½	7⅜	26,557,496	N.P.	Imperial Oil Corp.	12½cQ	Dec. 1, 31	4,900	10⅛	9¾	9¾	— ¼
28	15	18	7⅛	.....	N.P.	do registered	12½cQ	Dec. 1, 31	.....	....	....	....	....
41	14½	21⅛	5½	300,000	$10	Indiana Pipe Line Co.	25cQ	Nov. 14, 31	200	8¼	8¼	8¼	0
24	11⅜	15½	7⅜	14,247,088	N.P.	International Petroleum Co.	25cQ	Sept. 15, 31	11,700	10⅞	10	10⅛	— ½
22⅜	11½	17½	8⅛	509,000	$12.50	National Transit Co.	25cQ	Sept. 15, 31	.....	....	....	....	....
21	10⅛	14½	5⅞	100,000	10	New York Transit Co.	††15cQ	Oct. 15, 31	300	8¾	8¼	8¾	+ ½
54	26¼	35½	20	40,000	50	Northern Pipe Line Co.	††$1.50S.A.	July 1, 31	50	33½	33½	33½	+ ½
108	100¾	102⅞	80	579,465	100	Ohio Oil Co. pfd.	$1.50Q	Sept. 15, 31	300	79	79	79	— 1¼
32	12	15⅛	6	400,000	25	Penn Mex. Fuel Co.	50c	Oct. 31, 31	.....	....	....	....	....
33	4⅞	16⅛	3¼	160,000	25	Solar Refining Co.	....	Dec. 20, 29	.....	....	....	....	....
20⅛	6¾	17	9	100,000	10	Southern Pipe Line Co.	50cQ	Dec. 1, 31	.....	....	....	....	....
45⅞	18	23⅞	12	1,200,000	25	South Penn Oil Co.	25cQ	Sept. 30, 31	300	13½	13	13	0
64	32	42½	25	35,000	50	Southwest Pa. Pipe Lines	$1Q	Oct. 1, 31	.....	....	....	....	....
59⅞	30	38½	15⅞	16,996,596	25	S. O Indiana	50cQ	Sept. 15, 31	17,100	20⅝	18⅝	18¾	— 1¼
40½	18⅞	23⅝	13¼	2,588,735	10	S. O. Kentucky	40cQ	Sept. 30, 31	4,700	16¾	15⅜	15⅝	— ½
48⅞	34	36½	16½	190,822	25	S. O. Nebraska	50cQ	Sept. 20, 31	.....	....	....	....	....
108½	43¼	62½	35	811,112	25	S. O. Ohio	62½cQ	Oct. 2, 31	550	38¼	35⅜	35⅜	— 4⅝
....	....	115¼	85¼	120,000	100	do 5% pfd.	$1.25Q	Oct. 15, 31	100	85¼	†85¼	85¼	— 4¾
10	4	10	2⅜	34,158	25	Swan Finch Oil Corp.	....	Jan. 15, 29	.....	....	....	....	....

*New high †New low ††Also extra—Chesebrough 50c; N. Y. Transit 10c; Northern P. L. 50c.

Oil and Royalty Stocks on New York Curb

1930 High	1930 Low	1931 High	1931 Low	Par Value		Sales Shares	Transactions Week Ended Nov. 28 High	Low	Last	Week's Change
4½	½	1¾	¼	N.P.	American Maracaibo	4,000	3/8	3/8	3/8	0
16¾	4⅝	6½	2⅛	N.P.	Arkansas Nat. Gas	500	2⅝	2⅝	2⅝	— 3/8
16⅝	4⅝	6¾	2	N.P.	do A	,,00	3	2⅝	2¾	0
8⅛	6¼	7	3⅞	$10	do pfd.	1,000	5⅜	5¼	5¼	— ¼
1	⅛	1	⅛	N.P.	Atlantic Lobos	.....	....	....	....	....
1½	⅛	3¼	¼	$50	do pfd.	100	5/8	5/8	5/8	— 1⅛
21	13⅜	16⅞	6¼	N.P.	British American coup.	100	9⅛	9⅛	9⅛	— ⅛
....	....	16¾	10	N.P.	do registered	.....	....	....	....	....
2¾	⅜	2⅜	½	$¼	Carib Syndicate	2,200	½	3/8	½	0
44¼	13⅛	20¾	5¼	N.P.	Cities Service	55,000	7⅛	6⅝	6¾	— 3/8
93⅞	78¼	84¾	35⅜	$100	do pfd.	1,200	58	56¾	57¼	— 5/8
9	7¼	7½	4⅜	10	do pref. B	100	5⅜	5⅜	5⅜	— ⅛
89⅞	80	84	42	100	do pref. BB	60	54	54	54	0
8¼	1⅛	3⅛	¾	N.P.	Colon Oil Corp.	100	¾	3/4	3/4	— ¼
21	3⅜	7⅛	1	N.P.	Col. Oil & Gas. vtc.	1,700	2	1¾	1¾	0
5⅞	2	2¾	1¼	$1	Consolidated Royalty	.....	....	....	....	....
74¾	1¼	3¾	½	N.P.	Cosden Oil	1,400	1	3/4	3/4	— 1/8
70	10¼	15	1	$100	do pfd.	300	2¼	2	2	+ ⅛
1	⅛	⅝	⅛	N.P.	Crown Central Petrol.	.....	....	....	....	....
21¾	2½	5	2	N.P.	Darby Petroleum	.....	....	....	....	....
11	2	6	1¾	N.P.	Derby Oil & Refining	200	2	2	2	— ¼
60	30	40⅛	25	N.P.	do pfd.	.....	....	....	....	....
106⅞	58½	76	38	$25	Gulf Oil Corp.	2,500	48	44⅜	45	— 1
40¾	36	9¾	9¾	....	Honolulu Oil Corp.	.....	....	....	....	....
47½	12⅜	16⅞	5½	N.P.	Indian Ter. Ill'g. Oil A	500	6½	6¼	6¼	— ¼
53⅛	12⅜	16⅞	6⅛	N.P.	do B	200	6½	6½	6½	0
1¾	⅜	⅝	1/8	$5	Intercontinental Petrol.	8,200	1/8	¼	1/8	0
3	⅞	1⅞	½	N.P.	Kirby Petroleum	.....	....	....	....	....
4¾	½	1½	1/8	$25	Leonard Oil Devel.	300	3/8	1/8	1/8	— 1/8
29	4⅞	6¾	2¾	N.P.	Lion Oil Refining	100	3⅛	3⅛	3⅛	— 1/8
55⅞	19⅝	29	7¼	N.P.	Lone Star Gas	500	9¼	9	9	— ¼
31	5½	....	....	$25	MacMillan Petroleum	.....	....	....	....	....
½	⅛	1¾	⅛	$1	Magdalena Syndicate	3,400	⅛	⅛	⅛	0
16	3	5	2⅜	N.P.	Margay Oil Co.	800	3½	2	2⅛	— ⅞
7½	1¾	4⅞	1½	N.P.	Mexico-Ohio Oil	.....	....	....	....	....
....	....	8⅞	1½	N.P.	Michigan Gas & Oil	.....	....	....	....	....
11⅞	2¼	4⅝	⅞	N.P.	Mid. States Pet. A vtc.	100	1½	1½	1½	0
6	⅝	1½	½	N.P.	do B vtc.	300	½	½	½	0
36½	5	11	1¾	$5	Missouri-Kansas P. L.	5,000	2	††1¾	1¾	— ⅛
6	⅜	⅝	⅛	1	do B vtc.	200	⅛	⅛	⅛	0
¾	⅜	⅝	⅛	1	Mountain & Gulf	100	⅛	⅛	⅛	0
12½	3¾	5⅜	2½	10	Mountain Producers	1,300	3¼	2⅞	2⅞	— 3/8
41⅜	19⅞	26½	11½	N.P.	National Fuel Gas	1,000	15	14⅜	14⅜	— ½
3½	1⅛	1½	½	$5	New Bradford Oil	700	5/8	½	½	— ⅛
3⅛	2⅛	2⅛	1½	10	New England Fuel	.....	....	....	....	....
16⅜	4	....	....	25	N. Y. Pet. Royalty	.....	....	....	....	....
....	....	6½	6½	10	N. American Oil	.....	....	....	....	....
11¼	2⅛	3¼	1	N.P.	North Central Texas	100	1⅜	1⅜	1⅜	— 3/8
4⅛	⅝	2½	⅜	N.P.	North European Oil	1,600	3/8	3/8	3/8	0
11⅜	3⅛	5	1	N.P.	Oilstocks Ltd. A	100	1¾	1¾	1¾	— ¼
11½	4½	5	2¼	N.P.	do B	.....	....	....	....	....
19½	5½	15	3	N.P.	Pacific Western Oil	1,800	5	4¾	4¾	— ¼
2½	¼	¾	1/8	N.P.	Pandem Oil	200	1/8	⅛	1/8	0
4⅜	1	2	⅝	N.P.	Pantepec oil of Venezuela	1,100	¾	⅝	⅝	0
5⅞	½	1⅛	¼	....	Petroleum Corp war	.....	....	....	....	....
27½	16¼	19	6	$5	Plymouth Oil	1,300	9⅜	8¾	8¾	— ¼
8	3⅛	4½	⅝	N.P.	Producers Royalty	400	⅝	⅝	⅝	0
99	81¾	83½	15¾	$100	Pure Oil 6% pfd.	.....	....	....	....	....
10½	1½	2½	1	N.P.	Red Bank Oil	.....	....	....	....	....
5⅜	⅜	2¼	½	N.P.	Reiter-Foster Oil	.....	....	....	....	....
23½	6½	11	⅝	$25	Richfield Oil pfd.	100	5/8	†⅝	⅝	— 3/8
25	2¼	5	1¾	N.P.	Root Refining pfd.	.....	....	....	....	....
12⅞	5½	3¾	½	$10	Roy. Corp. of Amer pfd	.....	....	....	....	....
8⅝	2	2⅞	1	N.P.	Ryan Consolidated	.....	....	....	....	....
2½	½	1⅜	¼	$10	Salt Creek Consol.	.....	....	....	....	....
15¼	5¼	⅝	3¾	10	Salt Creek Producers	1,700	4½	3⅞	3⅞	— ⅝
8	1¾	5¼	2	25	Shreve. El Dorado P.L.	.....	....	....	....	....
17	6	7½	3⅝	N.P.	Southland Royalty	3,200	4⅛	4	4⅛	0
10	2	5¼	1/8	$5	Sunray Oil	3,300	5/8	1/8	1/8	— 1/8
19½	8	12⅞	2½	N.P.	Texon Oil & Land	200	6	6	6	— ⅛
47½	19	24½	11¼	$25	Union Oil Associates	100	15½	15½	15½	0
4½	⅝	1⅞	⅜	5	Venezuela Petroleum	2,700	⅝	⅝	⅝	— ⅛
5	2	3½	1⅜	1	Woodley Petroleum	.....	....	....	....	....
2½	⅜	2¼	¼	N.P.	Y Oil & Gas	200	½	½	½	+ ⅛

*New high †New low

Oil Dividends

Declared Last Week

Company and Period	Amount	Stock of Record Payable	Record
Humble Oil q.	50c	Jan. 1	Dec. 2
S. O. Kentucky q.	40c	Dec. 31	Dec. 15
Tide Water Assoc. pfd. q.	$1.50	Jan. 2	Dec. 10

Awaiting Payment

Nov. 26, 1931

Company and Period	Amount	Stock of Record Payable	Record
Atlantic Refining q.	25c	Dec. 16	Nov. 21
British American Oil q.	20c	Jan. 2	.....
Buckeye Pipe Line q.	$1	Dec. 15	Nov. 20
Cities Service m.	2½c	Dec. 1	Nov. 14
do stock m.	½%	Dec. 1	Nov. 14
do pfd. m.	50c	Dec. 1	Nov. 14
do pref. B m.	5c	Dec. 1	Nov. 14
do pref. BB m.	50c	Dec. 1	Nov. 14
Chesebrough Mfg. q.	$1	Dec. 30	Dec. 10
do extra	$1	Dec. 30	Dec. 10
Cities Service m.	2½c	Jan. 2	Dec. 15
do stock m.	½%	Jan. 2	Dec. 15
do pfd. q.	50c	Jan. 2	Dec. 15
do pref. B m.	5c	Jan. 2	Dec. 15
do pref. BB m.	50c	Jan. 2	Dec. 15
General Asphalt q.	50c	Dec. 15	Dec. 1
Imperial Oil q.	12½c	Dec. 1	Nov. 14
International Pet. q.	25c	Dec. 15	Nov. 30
National Transit q.	25c	Dec. 15	Nov. 30
McColl Frontenac q.	15c	Dec. 15	Nov. 14
New York Transit q.	15c	Jan. 15	Dec. 23
do extra	10c	Jan. 15	Dec. 23
N. Cent. Texas pfd. q.	$1.62½	Jan. 2	Dec. 10
Northern Pipe Line s.a.	$1.50	Jan. 2	Dec. 21
Ohio Oil pfd. q.	$1.50	Dec. 15	Nov. 21
Socony Vacuum q.	25c	Dec. 15	Nov. 20
Southern Pipe Line q.	50c	Dec. 1	Nov. 16
S. O. California q.	62½c	Dec. 15	Nov. 16
S. O. Indiana q.	25c	Dec. 15	Nov. 16
S. O. Nebraska q.	50c	Dec. 21	Nov. 27
S. O. New Jersey q.	25c	Dec. 15	Nov. 16
do extra	25c	Dec. 15	Nov. 16
Sun Oil q.	25c	Dec. 15	Nov. 25
do pfd. q.	$1.50	Dec. 1	Nov. 10
The Texas Corp. q.	50c	Jan. 1	Dec. 4
Union Tank Car q.	40c	Dec. 1	Nov. 16
Valvoline Oil q.	$1.50	Dec. 28	Dec. 24
do pfd. q.	$2	Jan. 1	Dec. 17

New York Curb Bonds

Week Ending Nov. 27

	High	Low	Last	Change
Beacon Oil 6s '36	95	95	95	0
Cities Serv. 5s '66	51½	50⅜	50⅜	—1⅝
Cities Serv. 5s '50	53¼	50¾	52⅛	— ⅝
Cities Serv. G. 5½s '42	53½	52⅛	52⅛	— ⅝
Cities Serv. G. P. 6s '43	59	57⅛	57⅛	—1⅝
Cont. Oil 5½s '37	88⅞	83⅞	83⅞	—2½
Empire O & R 5½s '42	50⅝	49⅞	50⅛	— ½
Gulf Oil 5s '37	99	99	99⅜	+ ⅛
Gulf Oil 5s '47	97¾	96½	96½	— ¾
Indep. Oil 6s '39	88	86½	86½	—1
Sun Oil 5½s '39	95	93⅜	93⅜	—2

NEW PATENTS

Prepared by R. E. Burnham, patent and trade-mark attorney, 1343 H Street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 20c each. State number of patent and name of inventor when ordering.

November 17, 1931

REFINING

Process of sweetening hydrocarbon distillates—Thomas B. Kimball, Martinez, Calif., assignor to Shell Oil Co., San Francisco, Calif. Filed May 31, 1927. No. 1,831,916.

Process of cracking hydrocarbon oils—Jean D. Seguy, Chicago, Ill., assignor to Universal Oil Products Co., same place. Filed Dec. 24, 1927. No. 1,831,974.

Process of cracking hydrocarbon oils—Jean D. Seguy, Chicago, Ill., assignor to Universal Oil Products Co., same place. Filed Jan. 19, 1928. No. 1,831,975.

Process and apparatus for cracking and treating hydrocarbons—Homer T. Darlington, West Chester, Pa. Filed Apr. 25, 1927. No. 1,832,100.

Process of refining hydrocarbon liquids under high vacuum—Warren W. Grimm, Nacogdoches, Tex. Filed June 25, 1926. No. 1,832,202.

Apparatus for treating oil with aluminum chloride—Frank W. Hall, Port Arthur, Tex., assignor to Texas Co., New York, N. Y. Filed Mar. 15, 1920. No. 1,832,629.

Device for the the fractional distillation and condensation of complex mixtures — Edmond Voituron, Brussels, Belgium. Filed Sept. 3, 1925. No. 1,832,800.

Process of cracking hydrocarbon oil—Jean D. Seguy, Chicago, Ill., assignor to Universal Oil Products Co., same place. Filed Dec. 27, 1927. No. 1,832,819.

Process of cracking hydrocarbon oil—Jean D. Seguy, Chicago, Ill., assignor to Universal Oil Products Co., same place. Filed Dec. 27, 1927. No. 1,832,820.

PRODUCTION

Bull-wheel—William Wright, Tulsa, Okla., assignor to Oklahoma Iron Works, same place. Filed Mar. 19, 1928. No. 1,831,833.

Drilling-bit—John E. Brantly, Birmingham, Ala., assignor to Drilling & Exploration Co., Dover, Del. Filed Dec. 22, 1928. No. 1,831,841.

Derrick—Fred D. Bearly, Oklahoma City, Okla. Filed Feb. 13, 1930. No. 1,831,838.

Method of and apparatus for making emergency pipe connections — Hobart Myracle, Oklahoma City, Okla., assignor to American Iron & Machine Works Co., same place. Filed Jan. 19, 1931. No. 1,831,878.

Drive-jar for wells — Alphaeus C. Baimbridge, Los Angeles, Calif. Filed Oct. 27, 1930. No. 1,831,942.

Anti-friction device — Clinton H. M. Bull, Houston, Tex., assignor to Reed Roller Bit Co., same place. Filed Dec. 27, 1927. No. 1,831,999.

Expanding bit—Schuyler C. Knaub, Denison, Tex. Filed June 29, 1929. No 1,832,129.

Combination sand-pump and bailer—Clark F. Rigby, Butler, Pa. Filed May 21, 1929. No. 1,832,333.

Universal electric earth-boring device—Frederic W. Hild, Los Angeles, Calif. Filed Jan. 25, 1923. No. 1,832,634.

Hydraulic pump—Wilbur N. Squires, Joplin, Mo., assignor to Hydraulic Deep Well Pump Co., same place. Filed May 16, 1928. No. 1,832,668.

Well-drilling apparatus—Waldo Sheldon, South Norwalk, Conn. Filed Jan. 27, 1931. No. 1,832,841.

MISCELLANEOUS

Method and apparatus for concentrating liquids—Harry W. Thompson, Bakersfield, Calif., assignor to Standard Oil Co. of California. Filed Feb. 11, 1928. No. 1,831,892.

Separation of gaseous or low-boiling unsaturated hydrocarbons — Otto Schmidt and Otto Grosskinsky, Ludwigshafen-on-the-Rhine, Germany, assignors to I. G. Farbenindustrie. Filed Mar. 15, 1928. No. 1,832,428.

Process for purification of gas—Stewart P. Coleman, Houston, and Brian Mead, Baytown, Tex., assignors to Standard Oil Development Co. Filed Sept. 21, 1928. No. 1,832,448.

Apparatus for preparing liquid fuels—Frank P. Youngblood, Port Arthur, Tex., assignor to Texas Co., New York, N. Y. Filed Dec. 12, 1929. No. 1,832,827.

November 24, 1931

REFINING

Process for refining oils—John C. Black, Destrehan, La., assignor to Contact Filtration Co., San Francisco, Calif. Filed Oct. 26, 1926. No. 1,832,892.

Process for cracking hydrocarbon oils—Gustav Egloff and Harry P. Benner, Chicago, Ill., assignors to Universal Oil Products Co., same place. Filed Aug. 20, 1920. No. 1,832,927.

Process for cracking hydrocarbon oils—Gustav Egloff and Harry P. Benner, Chicago, Ill., assignors to Universal Oil Products Co., same place. Filed July 6, 1920. No. 1,832,928.

Apparatus for cracking oil—Gustav Egloff, Chicago, Ill., assignor to Universal Oil Products Co., same place. Filed Dec. 15, 1920. No. 1,832,970.

Process for hydrocarbon oil conversion—Oscar H. Fairchild, Chicago, Ill., assignor to Universal Oil Products Co., same place. Filed Jan. 14, 1926. No. 1,832,975.

Process and apparatus for converting hydrocarbon oils—Lester Kirschbraun, Leonia, N. J., assignor to Universal Oil Products Co., Chicago, Ill. Filed Mar. 12, 1920. No. 1,832,985.

Process for cracking petroleum oil—Lester Kirschbraun, Leonia, N. J., assignor to Universal Oil Products Co., Chicago, Ill. Filed June 1, 1920. No. 1,832,986.

Process of increasing the yield of light hydrocarbons from oil shales—Philip S. Danner, Port Richmond, and Ernest E. Lyder, Berkeley, Calif., assignors to Standard Oil Co. of California. Filed Sept. 28, 1925. No. 1,833,155.

Cracking of oil—Eugene C. Herthel, Chicago, Ill., assignor to Sinclair Refining Co., New York, N. Y. Filed July 14, 1925. No. 1,833,162.

Method of purifying petroleum products—Wright W. Gary, Los Angeles, Calif., assignor to Cannon-Prutzman Treating Processes, Inc., same place. Filed June 30, 1928. No. 1,833,396.

Treatment of hydrocarbon oils—Robert Pyzel, Chicago, Ill., assignor to Universal Oil Products Co., same place. Filed Apr. 27, 1928. No. 1,833,472.

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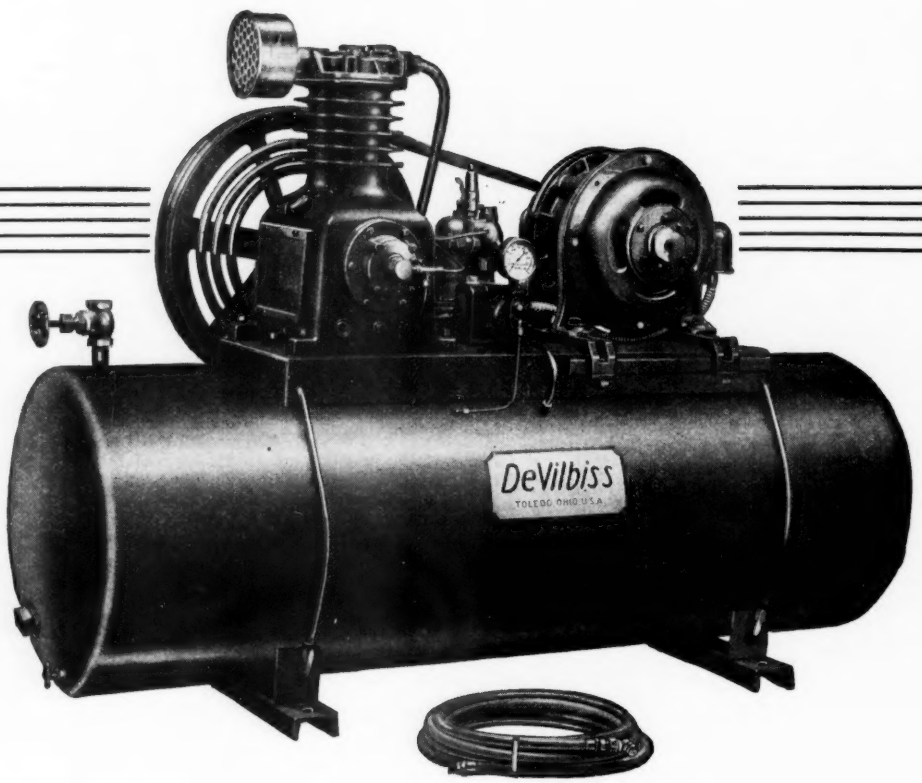
Reduce

Compressed Air Costs in 1932 . . .



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